

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

DATE: 12-NOV-2009

SUBJECT: **Malathion:** Acute, Probabilistic Dietary (Food + Drinking Water) Exposure and Risk Assessments for the Continued Post-harvest Use on Rice and Wheat.

PC Code: 057701

DP Barcode: 371345

Decision No.: 404492

Registration No.: NA

Petition No.: NA

Regulatory Action: Section 3

Risk Assessment Type: Single Chemical

Case No.: 0248

Aggregate

TXR No.: NA

CAS No.: 121-75-5

MRID No.: NA

40 CFR: §180.111

REVIEWER: Sheila Piper, Chemist *Sheila Piper*
Risk Assessment Branch VI
Health Effects Division (7509P)

THROUGH: Douglas Dotson, Ph.D, Chemist *D. Dotson*
Julie Van Alstine, MPH *Julie Van Alstine*
Dietary Exposure Science Advisory Council (DESAC)
Health Effects Division (7509P)
and
Felecia Fort, Chief *Felecia Fort*
Risk Assessment Branch VI
Health Effects Division (7509P)

TO: Venus Eagle, Team Leader
Marianne Lewis, Biologist
Insecticide Rodenticide Branch
Registration Divison (7508P)
And
Eric Mierderhoff, Chemical Review Manager
Pesticide Re-evaluation Division (PRD) (7508P)

NOV 23 RECD 1209
RRC
SH

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

Executive Summary

Acute, probabilistic dietary (food and drinking water) exposure and risk assessments were conducted using the Dietary Exposure Evaluation Model (DEEM-FCID, Version 2.03), which uses food consumption data from the U.S. Department of Agriculture's Continuing Surveys of Food Intakes by Individuals (CSFII) from 1994-1996 and 1998. The analyses were performed as part of the registrant Cheminova's response to EPA's revised risk assessment (S. Piper, D321543, 13-JUL-2006) for malathion/malaoxon and include the following reregistration action: (1) post-harvest use on rice and wheat; (2) new acute toxicological endpoint; (3) new toxicity adjustment factor (TAF) for malaoxon; and (4) new drinking water estimates provided by the Environmental Fate and Effects Division (EFED) based on mitigation agreed to between the registrant and the PRD.

Acute Dietary Exposure Results and Characterization

A highly refined probabilistic acute dietary exposure assessment was conducted for all supported food uses and drinking water. Malathion residue estimates used in this assessment include malathion and the oxygen analog metabolite malaoxon. Malaoxon is considered more toxic than malathion. A comparative cholinesterase assay (CCA) with malathion and malaoxon was submitted in which cholinesterase activity was measured following gestational exposure; describing time of peak effect; and following acute exposures (postnatal day, PND 11). The new TAF of 22x (previously 61x) was calculated from the new CCA and a new point of departure (PoD) for the acute dietary assessment which changed from 13.6 mg/kg/day to 7.6 mg/kg/day.

The registrant is requesting the continued post-harvest use on rice. The most recent dietary assessment already included post-harvest use for rice (July 2006). Therefore, rice grain, USDA Pesticide Data Program (PDP) from 2000-02 was utilized, and the latest wheat grain PDP data from 2003-2006 were incorporated into this dietary risk assessment.

Estimated residues in drinking water were provided by the EFED and incorporated directly into the acute assessment. The assessment was conducted using the full distribution of estimated residues in surface water generated by the PRZM-EXAMS (Pesticide Root Zone Model-Exposure Analysis Modeling System) Model and 100% conversion of malathion to malaoxon was assumed with each residue multiplied by 22 to account for the malaoxon TAF. There are 15 scenarios to be used and are formulated based on mitigation agreed to between the registrant and the PRD as part of the Reregistration Eligibility Decision (RED) process.

Food Alone

The acute dietary exposure estimates from food alone are below HED's level of concern (<100 % of the acute population adjusted dose (aPAD)) at the 99.9th percentile of exposure. Malathion dietary exposure at the 99.9th percentile from food alone is 8% of the aPAD for the U.S. population and 19% of the aPAD for all infants (<1 yr old), the most highly exposed population

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

subgroup.

Food and Water

Acute dietary exposure estimates from food and drinking water based on various default input parameters are all below HED's level of concern (<100% aPAD) at the 99.9th percentile of exposure for all scenarios. The WA cherry maximum (scenario TS10 in Table 2) aerial scenario results in the highest drinking water concentrations and consequently the highest dietary (food + water) exposure. Dietary exposure to malathion using the WA cherry maximum aerial application at the 99.9th percentile from food and drinking water is 25% of the aPAD for the U.S. population and 79% of the aPAD for all infants (<1 year old), the most highly exposed population subgroup. Drinking water is the risk driver in the acute assessment for malathion, accounting for approximately 90% of estimated exposure in the acute assessment.

Chronic Dietary Exposure Results and Characterization

There were no changes to the chronic aggregate dietary exposure assessment. As a result, a new chronic assessment is not being performed. The previous chronic dietary exposure estimates from food and drinking water using the worst-case aerial CA lettuce maximum application 1-in-10 year annual concentration are all below HED's level of concern (<100% of the chronic population adjusted dose (cPAD)) for the U.S. population and all population subgroups. Malathion dietary exposure from food and drinking water was <1% of the cPAD for the U.S. population and all infants <1 year, the most highly exposed population subgroup (refer to S.Piper, D330636, 13-JUL-2006).

I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose which HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the population adjusted dose (PAD). The PAD is equivalent to the Reference Dose (RfD) divided by the Food Quality Protection act (FQPA) Safety Factor (SF).

For acute exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. References which discuss the acute and chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available Information on Assessing Exposure from Pesticides, A User's Guide," 6/21/2000, web link:

<http://www.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf>; or see SOP 99.6 (28-AUG-1999).

The most recent dietary risk assessment for malathion was conducted by S. Piper (13-JUL-2006, D330636).

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

II. Residue Information

Tolerances for residues in/on food/feed commodities are currently expressed in terms of malathion *per se* (*O, O*-dimethyl dithiophosphate of diethyl mercaptosuccinate) [40 CFR §180.111]. Tolerances have been established for residues of malathion *per se* in/on rice grain, postharvest at 8 ppm. The HED Metabolism Assessment Review Committee (MARC) determined that the parent compound malathion and the oxygen analog metabolite, malaoxon are the compounds to be regulated in plant commodities and the dietary risk assessments should consider both.

Residue Data used for Acute Assessment

The submitted field residue data (MRID 43468101) for rice reflects the maximum use patterns the registrant wishes to support for rice, and indicate that the combined residues of malathion and malaoxon exceeded the established tolerance of 8 ppm for rice grain postharvest use. The combined residues of malathion and malaoxon were 1.17- 3.99 ppm in/on rice grain harvested 7 days following the last of three foliar applications, with a 7-day retreatment interval, using the 5 lb/gal EC formulation at 1.25 lb ai/A/application in 30 gal of water/A with ground equipment. Residues in rice grain harvested 14 days following the last of three foliar applications, with a 7-day retreatment intervals, of the 9.79 lb/gal RTU formulation at 0.61 lb ai/A/application using aerial ULV equipment were <0.30- 26.18 ppm.

The post-harvest rice use is supported by the residue data study on stored wheat (MRID 43661401). Cheminova has submitted a magnitude of residue study on stored wheat grain from storage bins that were treated with Malathion 57EC and Big 6® Grain Protector to determine the magnitude of the residue of malathion, malaoxon, and desmethyl malathion in the whole grain and in processed commodities produced from the grain (S.Piper, D292680, 12-MAR-09). The malathion (13.6 ppm) and malaoxon (<LOQ) residues were found in the treated grain samples collected after 10 days. Malathion (15.1 ppm) and malaoxon (<LOQ) residues were found in samples collected 29 days after the last application. In the processing phase, the treated grain sample collected immediately prior to processing contained 15.0 ppm of malathion and <LOQ malaoxon.

There is a post-harvest use already registered for wheat. Therefore, for wheat grain, the PDP data was utilized. The wheat grain PDP data from 2005 and 2006 showed 884 detectable residues out of 2722 samples with residues ranging from 0.005 to 2.577 ppm. For wheat flour, PDP data from 2003 and 2004 showed 587 detectable residues out of 2662 samples with residues ranging from 0.005 to 0.685 ppm. The PDP wheat data reflects post-harvest use (samples from grain transport- trucks, barges, etc that are moving product from storage may be treated) and these changes are incorporated in the acute and chronic dietary exposure assessment. For rice, there are no new PDP data and the PDP data from 2000-02 were used.

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

Field trial data for malathion and malaoxon were designed for tolerance setting purposes and reflect the maximum proposed application rate, maximum number of seasonal applications, and shortest interval between treatment and harvest. Chestnuts, cotton, dates, figs, guava, macadamia nuts, mango, mints, papayas, passion fruit and walnuts were the raw agricultural commodities for which field trial data were used in the dietary exposure assessment. Only dates, mints, guava and cotton had detectable residues of malaoxon as shown in Table 1. Each malaoxon residue was multiplied by 22x to adjust for the malaoxon. Attachment 1 also shows the detectable residues for malathion and malaoxon.

Table 1: Malaoxon Detects in Monitoring Data and Field Trial Data -Adjusted by the Toxicity Factor of 22x.

Commodity	Source (Detects of malaoxon)	Malathion (ppm)	Malaoxon (ppm)	TAF Adjustment Factor ¹ - 22x (ppm)	Total ² (ppm)
Monitoring Data					
Barley	2002 PDP data (1 detect)	0.0025	0.017	0.374	0.3765
Celery	2002 PDP data (1 detect)	5.5	0.005	0.11	5.61
Grape	2000 PDP data (1 detect)	0.007	0.005	0.11	0.117
Strawberries	1999-2000 PDP data (13 detects)	0.23 0.027 0.019 0.05 0.016 0.03 0.057 0.009 0.04 0.009 0.003 0.056 0.052	0.013 0.013 0.013 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.286 0.286 0.286 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11	0.516 0.313 0.305 0.16 0.126 0.14 0.167 0.119 0.15 0.119 0.113 0.166 0.052

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

Commodity	Source	Malathion (ppm)	Malaoxon (ppm)	TAF Adjustment Factor ¹ - 22x	Total ²
Field Trial Data					
Dates	Field Trials (3 detects)	1.43	0.338	7.436	8.866
		3.26	0.212	4.664	7.924
		2.33	0.15	3.3	5.63
Mint	Field Trials (2 detects)	0.89	0.05	1.1	1.99
		1.16	0.1	2.2	3.36
Guava	Field Trials (8 detects)	0.09	0.1	2.2	2.29
		0.1	0.11	2.42	2.52
		0.13	0.15	3.3	3.43
		0.3	0.18	3.96	4.26
		0.025	0.05	1.1	1.125
		0.07	0.05	1.1	1.17
		0.09	0.05	1.1	1.19
		0.13	0.09	1.98	2.11
Cotton	Field Trials (14 detects)	3.9	0.06	1.32	5.22
		5.9	0.06	1.32	7.22
		4.9	0.05	1.1	6
		9.3	0.09	1.98	11.28
		7.4	0.05	1.1	8.5
		3.1	0.07	1.54	4.64
		2.9	0.09	1.98	4.88
		1.5	0.07	1.54	3.04
		4.8	0.07	1.54	6.34
		3.5	0.05	1.1	4.6
		1.9	0.07	1.54	3.44
		2.6	0.09	1.98	4.58
		5.4	0.07	1.54	6.94
		2.1	0.06	1.32	3.42

¹ Total Adjustment Factor= Malaoxon (ppm) x 22x² Total = malathion (ppm) + TAF- 22x

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode: D371345

III. Usage Information

No new SLUA was provided.

The screening level usage analysis (SLUA) for malathion was provided by the Biological and Economic Analysis Division (BEAD) based on data years 1998-2002 (J. Alsadek, SLUA, 22-MAR-2004). Also, the quantitative usage analysis for malathion from 1988-2000 was used for beets, blackberries, brussel sprouts, dates, eggplants, figs, macadamia nuts and melons (T. Kiely, BEAD, 5/6/02). The estimated maximum %CT for each commodity was used for the acute dietary risk assessment and the estimated weighted average %CT for each commodity for the chronic dietary risk assessments. Where no further information was available, 100%CT was assumed. See Attachment 19.

IV. Drinking Water

The Environmental Fate and Effects Division (EFED) recalculated daily drinking water values over 30-year time periods for 15 agricultural use scenarios (S. Wente, D292653, 26-NOV-08). The 15 scenarios are to be used in the Malathion RED and are formulated based on mitigation agreed to between the registrant and the PRD. Scenarios expected to yield the highest drinking water concentrations; based on BEAD usage data, application rate, and runoff potential were selected for this assessment in order to provide high-end estimates for all currently labeled malathion uses. A 1-day aerobic soil metabolism half life was used along with the 3-day half life used in previous assessments. The drinking water modeling using a 1-day half life may provide more typical water concentrations than the more protective half life of 3 days because agricultural soils would be expected to commonly be moist and microbially active in order to support crop growth. Regional percent cropped area factors (PCAs) are used in this assessment. PCAs are fractions that represent the largest fraction of a watershed that is expected to be planted in a crop or combination of crops. The estimated drinking water values in this assessment are directly proportional to PCA values. Also, the drinking water concentrations have been adjusted to account for 100% conversion to malaoxon, which is expected during chlorination, addressing the difference in molecular weight between malathion and malaoxon (a factor of 0.951) and the estimated concentrations are adjusted for malaoxon's increased TAF of 22x. Water residues were incorporated in the DEEM-FCID into the food categories "water, direct, all sources" and "water, indirect, all sources."

Table 2 Malathion Drinking Water Scenarios for the Revised Malathion

Requested Scenario	App method	Rate (lbs/A)	No of Apps	App Interval	Soil T _{1/2}	PCA	First App Date	Comments
TS1 CA Lettuce	aerial	2	2	7	1	.56	1/1	
TS2 TX Peach	aerial	3	3	7	3	.38 ^a	5/1	Used GA Peach Scenario
TS3 FL Citrus	aerial	1	1	n/a	1	.38	6/1	
TS4 FL Citrus	aerial	7.5	1	n/a	1	.38	6/1	
TS5 FL Tomato	aerial	1.25	4	7	3	.38	1/1	
TS6 CA Strawberry	aerial	2	4	7	3	.56	5/1	

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

TS7	MS Cotton	aerial	0.8	3	7	3	.20 ^b	6/1	
TS8	MS Cotton	aerial	2.5	3	7	3	.20 ^b	6/1	
TS9	WA Cherry	aerial	2	3	7	1	.63	1/1	Used OR Apple Scenario
TS10	WA Cherry	aerial	2	4	7	1	.63	1/1	Used OR Apple Scenario
TS11	FL Cabbage	aerial	1.2	1	n/a	3	.38	1/1	
TS12	TX Sorghum	aerial	1	1	n/a	3	.67	6/1	
TS13	WA Asparagus	aerial	1.25	3	7	3	.63	1/1	Used OR Mint STD Scenario
TS14	OR Apple	aerial	1.1	1	n/a	3	.63	1/1	
TS15	MN Alfalfa	aerial	1.2	1	n/a	3	.85	7/1	

^a PCA of 0.38 is used to be consistent with previous modeling. Typically a regional PCA value for a large part of TX would be 0.67.

^b PCA of 0.20 is the national PCA for cotton.

V. DEEM-FCID™ Program and Consumption Information

Malathion acute dietary exposure assessments were conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID™, Version 2.03), which incorporates consumption data from USDA's Continuing Surveys of Food Intakes by Individuals (CSFII), 1994-1996 and 1998. The 1994-96, and 1998 data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g. apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. Consumption data are averaged for the entire U.S. population and within population subgroups for chronic exposure assessment, but are retained as individual consumption events for acute exposure assessment. Based on analysis of the 1994-96, and 1998 CSFII consumption data which took into account dietary patterns and survey respondents, HED concluded that it is appropriate to report risk for the following population subgroups: the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50+ years old.

For acute exposure assessments, individual one-day food consumption data are used on an individual-by-individual basis. The reported consumption amounts of each food item can be multiplied by a residue point estimate and summed to obtain a total daily pesticide exposure for a deterministic (Tier 1 or 2) exposure assessment, or "matched" in multiple random pairings with residue values and then summed in a probabilistic (Tiers 3/4) assessment. The resulting distribution of exposures is expressed as a percentage of the aPAD on both a user (i.e., those who reported eating relevant commodities/food forms) and a per-capita (i.e., those who reported eating the relevant commodities as well as those who did not) basis. In accordance with HED policy, per capita exposure and risk are reported for all tiers of analysis. However, for tiers 1 and 2, any significant differences in user vs. per capita exposure and risk are specifically identified and noted in the risk assessment.

VI. Toxicological Information

The acute RfD was based on a benchmark dose (BMD) analysis of RBC ChEI data from the acute dose portion of a comparative cholinesterase study in rat pups. An uncertainty factor of 100x was applied to account for interspecies variation (10x) and for intraspecies variation (10x). The FQPA factor of 10x is not required because the value used is from studies with very young rats (11-days old).

Malaoxon is a more potent cholinesterase inhibitor than malathion, its parent compound. To account for this, HED has performed BMD modeling to evaluate relative potency for malathion and malaoxon. This dietary exposure assessment reflects a change resulting from EPA's Data Call-In Notice (DCI) for special acute and repeated dose comparative ChE studies in juveniles dosed with malaoxon and malathion. A comparative cholinesterase assay (CCA) with malathion and malaoxon was submitted in which cholinesterase activity was measured following gestational exposure; describing time of peak effect; and following acute exposures (postnatal day, PND 11). Male, red blood cell (RBC) cholinesterase inhibition in the adult rats provided the endpoint for calculating the toxicity adjustment factor (TAF). This TAF is then used to quantitatively adjust malaoxon to equivalents of malathion. The new TAFs of 22x (previously 61x) were calculated from the new CCA and a new Point of Departure (PoD) for the acute dietary assessment which changed from 13.6 mg/kg/day to 7.6 mg/kg/day. Malathion is classified as "not likely to be carcinogenic to humans" by all relevant routes of exposure based on adequate studies. The toxicity endpoints pertinent for human risk assessment are summarized in Table 3.

Table 3: Summary of Toxicological Doses and Endpoints for Malathion for Use in the Dietary Risk Exposure and Risk Assessment

Exposure Scenario	Dose Used in Risk Assessment (mg/kg/day)	FQPA Safety Factor and Level of Concern for Risk Assessment	Study and Toxicological Effects
Dietary Risk Assessments			
Acute Dietary (Females 13-49)	There is no increased susceptibility expected to females of child-bearing age. Effects observed in the rat and rabbit developmental studies showed reduced body weight gains with NOAELs of 400 and 25 mg/kg/d, respectively. The aRfD for the general population is lower and thus would be protective of this population group.		
Acute Dietary (General population including infants and children)	Oral BMDL ₁₀ = 7.6 mg/kg/day UF = 100 ¹ Acute RfD = 0.08 mg/kg/day	FQPA SF = 1X ² aPAD = acute RfD/FQPA SF = 0.08 mg/kg/day	BMDL ₁₀ ³ = 76 mg/kg/day based on RBC ChEI in male pups. Comparative ChE acute oral study in the rat.
Chronic Dietary (All populations)	Oral BMDL ₁₀ = 7.1 mg/kg/day ⁴ UF = 100 Chronic RfD = 0.071 mg/kg/day	FQPA SF 1X cPAD = chronic RfD/FQPA SF = 0.071 mg/kg/day	BMDL ₁₀ = 7.1 mg/kg/d based on RBC ChEI in offspring. Comparative ChE multiple dose oral study in the rat.
Cancer	Classification: Suggestive evidence of carcinogenicity.		

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

UF = uncertainty factor, FQPA SF = FQPA safety factor, NOAEL = no observed adverse effect level, PAD = population adjusted dose (a = acute, c = chronic) RfD = reference dose

¹ UF = 100 [10x for interspecies and a 10x for intraspecies variations was used].

² FQPA factor of 1 used because susceptibility of the young already accounted for because they were part of the experimental group.

³ Benchmark Dose Lower Limit (BMDL), lower 95% confidence limit on the RBC CheI 10% effect level. Doses used in the study were: 0, 1,3,5,7,10, and 12.5mg/kg/day.

⁴ Benchmark Dose Lower Limit (BMDL), lower 95% confidence limit on the RBC CheI 10% effect level. Doses used in the study were: 0, 5, 50, and 150 mg/kg/day.

VII. Results/Discussion

As stated above, for acute assessment, HED is concerned when dietary risk exceeds 100% of the PAD. The DEEM-FCID analyses estimate the dietary exposure of the U.S. population and various population subgroups. The results reported in Table 4 are for the general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, and adults 50+ years. The results reported in Table 4 (food + drinking water), using additional drinking water scenarios for risk mitigation are for the general U.S. Population, all infants (<1 year old), children 1-2 and children 3-5, they were significant contributors at the 99.9th percentile for malathion dietary risk assessment.

The acute dietary exposure estimates from food alone are below HED's level of concern (<100 % aPAD) at the 99.9th percentile of exposure. Malathion dietary exposure at the 99.9th percentile from food alone is 8% of the aPAD for the U.S. population and 19% of the aPAD for all infants (<1 yr old), the most highly exposed population subgroup (see Attachment 3).

Acute dietary exposure estimates based on various default input parameters from food and drinking water are below HED's level of concern (<100% aPAD) at the 99.9th percentile of exposure. The WA cherry maximum (scenario TS10 in Table 2) aerial scenario results in the highest drinking water concentrations, and consequently the highest dietary (food + water) exposure. Dietary exposure to malathion for WA cherry maximum aerial application at the 99.9th percentile from food and drinking water is 25% of the aPAD for the U.S. population and 79% of the aPAD for all infants (<1 yr old), the most highly exposed population subgroup (see Table 4).

Table 4. Summary of Dietary (Food and Drinking Water¹) Exposure and Risk for Malathion

Population Subgroup	Acute Dietary (99.9th Percentile)		Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% aPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
General U.S. Population	0.019876	25	0.000224	<1		

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Table 4. Summary of Dietary (Food and Drinking Water¹) Exposure and Risk for Malathion

Population Subgroup	Acute Dietary (99.9th Percentile)		Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% aPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
All Infants (< 1 year old)	0.063268	79	0.000469	<1	N/A	N/A
Children 1-2 years old	0.028942	36	0.000456	<1		
Children 3-5 years old	0.026578	33	0.000441	<1		
Children 6-12 years old	0.018528	23	0.000315	<1		
Youth 13-19 years old	0.015395	19	0.000210	<1		
Adults 20-49 years old	0.017286	22	0.000201	<1		
Adults 50+ years old	0.015166	19	0.000152	<1		
Females 13-49 years old	0.017043	21	0.000184	<1		

¹ WA Cherry (TS10) drinking water scenario

VIII. Conclusions

A highly refined probabilistic acute dietary exposure and risk assessment was conducted for all supported food uses and drinking water. Malathion residue estimates used in this assessment include malathion and the oxygen analog metabolite malaoxon. Malaoxon is considered more toxic than malathion. A CCA with malathion and malaoxon was submitted and the new TAFs of 22x (previously 61x) was calculated from the new CCA along with a new PoD for the acute dietary assessment which changed from 13.6 mg/kg/day to 7.6 mg/kg/day.

The registrant is requesting the continued post-harvest use on rice. The most recent dietary assessment already included post-harvest use for rice (July 2006). Therefore, rice grain PDP monitoring data (2000-02) and the latest wheat grain PDP data from 2003-2006 was incorporated into this dietary risk assessment. There were no changes to the chronic aggregate dietary risk assessment.

Food Alone

The acute dietary exposure estimates from food alone are below HED's level of concern (<100 % aPAD) at the 99.9th percentile of exposure. Malathion dietary exposure at the 99.9th percentile

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

from food alone is 8% of the aPAD for the U.S. population and 19% of the aPAD for all infants (<1 yr old), the most highly exposed population subgroup.

Food and Water

Acute dietary exposure estimates from food and drinking water based on various default input parameters are below HED's level of concern (<100% aPAD) at the 99.9th percentile of exposure for all scenarios. The WA cherry maximum (2 lbs/A; 4 applications) aerial scenario results in the highest drinking water concentrations, and consequently the highest dietary (food + water) exposure. Dietary exposure to malathion for WA cherry maximum aerial application at the 99.9th percentile from food and drinking water is 25% of the aPAD for the U.S. population and 79% of the aPAD for all infants (<1 yr old), the most highly exposed population subgroup. Drinking water is the risk driver in the acute assessment for malathion, accounting for approximately 90% of estimated exposure in the acute assessment.

Attachments

- Attachment 1: Acute Residue Distribution Files and Chronic Point Estimate for Malathion
- Attachment 2: Acute Residue Input Data for Food Alone
- Attachment 3: Acute Residue Analysis for Malathion for Food Alone
- Attachment 4: Acute Residue Analysis for Malathion Food + CA lettuce (TS1)
- Attachment 5: Acute Residue Analysis for Malathion Food + TX peach (TS2)
- Attachment 6: Acute Residue Analysis for Malathion Food + FL citrus (TS3)
- Attachment 7: Acute Residue Analysis for Malathion Food + FL citrus (TS4)
- Attachment 8: Acute Residue Analysis for Malathion Food + FL tomato (TS5)
- Attachment 9: Acute Residue Analysis for Malathion Food + CA strawberry (TS6)
- Attachment 10: Acute Residue Analysis for Malathion Food + MS cotton (TS7)
- Attachment 11: Acute Residue Analysis for Malathion Food + MS cotton (TS8)
- Attachment 12: Acute Residue Analysis for Malathion Food + WA cherry (TS9)
- Attachment 13: Acute Residue Analysis for Malathion Food + WA cherry (TS10)
- Attachment 14: Acute Residue Analysis for Malathion Food + FL cabbage (TS11)
- Attachment 15: Acute Residue Analysis for Malathion Food + TX sorghum (TS12)
- Attachment 16: Acute Residue Analysis for Malathion Food + WA asparagus (TS13)
- Attachment 17: Acute Residue Analysis for Malathion Food + OR apple (TS14)
- Attachment 18: Acute Residue Analysis for Malathion Food + MN alfalfa (TS15)
- Attachment 19: Percent Crop Treated Memo from BEAD

cc: S.Piper, 7509P: RAB6: PY: Rm 10843: 308-2717: Malathion

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Attachment 1: Acute Residue Distribution Files and Chronic Point Estimate for Malathion

RDF#1 APPLE-NB single-serving (5%CT) 1999 PDP data 1461 samples/2 detects TOTALZ=1390 TOTALLOD=71 LODRES=0.001 0.003 0.003	RDF#2 APPLES-PB (5%CT) 2000-02 PDP data 1476 samples/0 detects TOTALZ=1402 TOTALLOD=74 LODRES=0.01	RDF#3 APPLES-DRIED (5%CT) 2000-02 PDP data 1476 samples/0 detects TOTALZ=0 TOTALLOD=1476 LODRES=0.01	RDF#4 APPLE JUICE (5%CT) 2002 PDP data 729 samples/0 detects TOTALZ=693 TOTALLOD=36 LODRES=0.02
Chronic: 1%CT 0.019/1461= 0.00001	Chronic: 1%CT 0.15/1476= 0.0001	Chronic: 1%CT 14.76/1476= 0.01	Chronic: 1%CT 0.1458/729= 0.0002
RDF#5 APPLESAUCE (5%CT) 2002 PDP data 358 samples/0 detects TOTALZ=340 TOTALLOD=18 LODRES=0.01	RDF#6 APRICOT (2.5%CT) 1994-99 FDA data 96 samples/2 detects TOTALZ=94 TOTALLOD=0 LODRES=0.01 0.043 0.01	RDF#7 ASPARAGUS (10%CT) 2002-03 PDP data 1059 samples/0 detects TOTALZ=953 TOTALLOD=106 LODRES=0.002	RDF#8 ASPARAGUS-CANNED (10%CT) 2003 PDP data 354 samples/0 detects TOTALZ=319 TOTALLOD=35 LODRES=0.002
Chronic: 1%CT 0.0358/358= 0.0001	Chronic: 1%CT 0.053/96= 0.0006	Chronic: 5%CT 0.1059/1059= 0.0001	Chronic: 5%CT 0.0354/354= 0.0001
RDF#9 AVOCADO (5%CT)92-98 FDA & FODC 92-96 386 samples/0 detects TOTALZ=367 TOTALLOD=19 LODRES=0.01	RDF#10 BLENDDED BARLEY 100%CT 2002-03 PDP data 746 samples/13 detects TOTALZ=0 TOTALLOD=733 LODRES=0.004 0.377 0.644 0.378 0.168 0.121 0.094 0.076 0.038 0.019 0.008 0.12 0.01 0.071	RDF#11 BLENDDED BEANS-DRIED 2.5%CT 94-99 FDA data 221 samples/8 detects TOTALZ=0 TOTALLOD=213 LODRES=0.01 0.017 7, 0.01	RDF#12 BEANS-GREEN (5%CT) 2001&03 PDP data 1450 samples/0 detects TOTALZ=1377 TOTALLOD=73 LODRES=0.004
Chronic: 5%CT 0.193/386= 0.0005	Chronic: 100%CT 5.52/746= 0.007	Chronic: 1%CT 0.087/221= 0.0004	Chronic: 1%CT 0.058/1450= 0.00004
RDF#13 BEETS(GARDEN)ROOT S (2%CT) 1992-96 FDA AND FODC data for	RDF#14 BEETS(GARDEN)TOPS (2.5%CT) 1992-96 FDA AND FODC data for	RDF#15 BLACKBERRY (13%CT) 1994-99 FDA data 178 samples/18 detects	RDF#16 BLUEBERRY (45%CT) 1994-99 FDA data 217 samples/14 detects

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

radish 121 samples/0 detects TOTALZ=119 TOTALLOD=2 LODRES=0.01	turnips 131 samples/0 detects TOTALZ=128 TOTALLOD=3 LODRES=0.01	TOTALZ=155 TOTALLOD=5 LODRES=0.01 7, 0.01 0.15 0.022 0.15 0.02 0.204 0.089 0.031 0.06 0.023 0.062 0.053	TOTALZ=119 TOTALLOD=84 LODRES=0.01 0.033 0.01 0.011 0.037 0.041 0.015 0.08 0.08 0.02 0.02 0.01 0.051 0.01 0.092
Chronic: 1%CT 0.012/121= 0.0001	Chronic: 1%CT 0.013/131= 0.0001	Chronic: 6%CT 0.934/178= 0.005	Chronic: 40%CT 1.238/217= 0.006
RDF#17 BROCCOLI (2.5%CT) 2001-02 PDP data 1457 samples/1 detects TOTALZ=1421 TOTALLOD=35 LODRES=0.0025 0.008	RDF#18 BRUSSEL SPROUTS (4%CT) FDA & FODC 1992-96 data 173 samples/0 detects TOTALZ=166 TOTALLOD=7 LODRES=0.01	RDF#19 CABBAGE (5%CT) 1994-99 FDA data 346 samples/1 detects TOTALZ=329 TOTALLOD=16 LODRES=0.01 0.23	RDF#20 CARROTS (5%CT) 2000-02 PDP data 1477 samples/2 detects TOTALZ=1403 TOTALLOD=72 LODRES=0.002 2, 0.003
Chronic: 1%CT 0.043/1457= 0.00003	Chronic: 2%CT 0.035/173= 0.0002	Chronic: 5%CT 0.39/346= 0.001	Chronic: 5%CT 0.15/1477=0.0001
RDF#21 CHICORY translated from carrots 100%CT 2000-02 PDP data 1477 samples/2 detects TOTALZ=0 TOTALLOD=1475 LODRES=0.002 2, 0.003	RDF#22 CANTALOUPE (5%CT) 2000&2003 PDP data 592 samples/0 detects TOTALZ=562 TOTALLOD=30 LODRES=0.01	RDF#23 CAULIFLOWER (2.5%CT) 1994-99 FDA data 129 samples/0 detects TOTALZ=126 TOTALLOD=3 LODRES=0.01	RDF#25 CELERY (100%CT) 2002-01 PDP data 1473 samples/339 detects TOTALZ=0 TOTALLOD=1134 LODRES=0.002 see RDF #24 for residue nos.=
Chronic: 100%CT 2.956/1477= 0.002	Chronic: 5%CT 0.3/592= 0.0005	Chronic: 1%CT 0.013/129= 0.0001	Chronic: 100%CT 31.776/1473= 0.02
RDF#27 COLLARDS (5%CT) 1992-98 FDA data 151 samples/0 detects TOTALZ=143 TOTALLOD=8 LODRES=0.01	RDF#28 BLENDENED CORN GRAIN (2.5%CT) 1994-96 FDA data 120 samples/23 detects TOTALZ=0 TOTALLOD=97 LODRES=0.01 0.02 0.01 0.01 0.01 0.01 0.01 0.01 0.011 0.229 0.09 0.02 0.44	RDF#30 CORN-SWEET CANNED (2.5%CT) 2001 PDP data 181 samples/0 detects TOTALZ=176 TOTALLOD=5 LODRES=0.0035	RDF#31 CUCUMBERS (5%CT) 2002-03 PDP data 922 samples/0 detects TOTALZ=876 TOTALLOD=46 LODRES=0.001

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

	0.5 0.08 1.36	2.22 0.02 0.079	0.105 0.14 0.12	0.05		
Chronic: 5 %CT 0.076/151= 0.0005	Chronic: 1%CT 5.56/120= 0.046	Chronic: 1%CT 0.006/181= 0.000035	Chronic: 1%CT 0.009/922= 0.00001			
RDF#32 EGGPLANT (4%CT) 1994-99 FDA data 110 samples/0 detects TOTALZ=106 TOTALLOD=4 LODRES=0.01	RDF#33 GARLIC [ONION] (30%CT) 2002-03 PDP data] 432 samples/0 detects TOTALZ=302 TOTALLOD=130 LODRES=0.005	RDF#34 GRAPEFRUIT (2.5%CT) 1994-99 FDA data 136 samples/6 detects TOTALZ=130 TOTALLOD=0 LODRES=0.01 0.01 0.14 0.15 0.4 0.014 0.01	RDF#35 GRAPES (2.5%CT) 2000-01 PDP data 1446 samples/2 detects TOTALZ=1410 TOTALLOD=34 LODRES=0.004			
Chronic: 2%CT 0.022/110= 0.0002	Chronic: 15%CT 0.324/432= 0.00075	Chronic: 1%CT 0.724/136= 0.005	Chronic: 1%CT 0.377/1446= 0.0003			
RDF#36 KALE (5%CT) 92-98 FDA data 114 samples/0 detects TOTALZ=108 TOTALLOD=6 LODRES=0.01	RDF#83 LEMON (15%CT) 94-99 FDA data 111 samples/0 detects TOTALZ=94 TOTALLOD=17 LODRES=0.01	RDF#37 LETUCE (15%CT) 2000-01 PDP data 1294 samples/0 detects TOTALZ=1100 TOTALLOD=194 LODRES=0.003	MUSHROOMS (100%CT) 2002-03 PDP data 1290 samples/0 detects @ 2 LOD= 0.0025 'use point estimate of 0.0025'			
Chronic: 5%CT 0.057/114= 0.0005	Chronic: 5%CT 0.0555/111= 0.0005	Chronic: 5%CT 0.194/1294= 0.00015	Chronic: 100%CT 0.0025			
RDF#38 MUSTARD GREENS (10%CT) 1992-96 FDA & FODC data 160 samples/0 detects TOTALZ=144 TOTALLOD=16 LODRES=0.01	RDF#39 NECTARINE (1%CT) 2000-01 PDP data 704 samples/2 detects TOTALZ=697 TOTALLOD=5 LODRES=0.002 0.003 0.003	RDF#40 BLENDED OATS (1%CT) 1999 PDP data 332 samples/18 detects TOTALZ=0 TOTALLOD=314 LODRES=0.0015 0.011 17, 0.005	RDF#41 OKRA (10%CT) 1992-96 FDA & FODC data 121 samples/1 detects TOTALZ=109 TOTALLOD=11 LODRES=0.01 0.06			
Chronic: 1%CT 0.016/160= 0.0001	Chronic: 1%CT 0.016/704= 0.00002	Chronic: 1%CT 0.096/332= 0.0003	Chronic: 10%CT 0.17/121= 0.001			
RDF#42 ONION (5%CT) 2002-03 PDP data 432 samples/0 detects	RDF#43 ONION DRIED (5%CT) 2002-03 PDP data 432 samples/0 detects	RDF#44 ORANGES (2.5%CT) 2000-01 PDP data 1489 samples/0 detects	RDF#45 PEACH-canned (2.5%CT) 2003 PDP data 742 samples/0 detects			

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

TOTALZ=410 TOTALLOD=22 LODRES=0.005	TOTALZ=0 TOTALLOD=432 LODRES=0.005	TOTALZ=1452 TOTALLOD=37 LODRES=0.003	TOTALZ=723 TOTALLOD=19 LODRES=0.005
Chronic: 5%CT 0.108/432= 0.00025	Chronic: 5%CT 0.108/432= 0.00025	Chronic: 1%CT 0.045/1489= 0.00003	Chronic: 1%CT 0.0371/742= 0.00005
RDF#46 PEACH DRIED (2.5%CT) 2000-02 PDP 1628 samples/6 detects TOTALZ=0 TOTALLOD=1622 LODRES=0.001 0.005 0.022 0.063 0.086 0.0058 0.006	RDF#47 PEACH-NB single-serving (2.5%CT) 2000 PDP data 534 samples/0 detects TOTALZ=521 TOTALLOD=13 LODRES=0.001 0.005 0.022 0.063 0.086 0.0058 0.006	RDF#48 PEACH-PB (2.5%CT) 2000-02 PDP data 1628 samples/6 detects TOTALZ=1587 TOTALLOD=35 LODRES=0.001 0.005 0.022 0.063 0.086 0.0058 0.006	RDF#49 SWEET PEAS-CANNED (2.5%CT) 2001 PDP data 729 samples/0 detects TOTALZ=711 TOTALLOD=18 LODRES=0.003
Chronic: 1%CT 1.8098/1628=0.001	Chronic: 1%CT 0.005/534=0.00001	Chronic: 1%CT 0.1978/1628=0.00012	Chronic: 1%CT 0.022/729= 0.00003
RDF#50 SWEET PEAS FROZEN (2.5%CT) 2003 PDP data 549 samples/0 detects TOTALZ=535 TOTALLOD=14 LODRES=0.002	RDF#76 CORN-SWEET FROZEN (2.5%CT) 2003 PDP data 547 samples/0 detects TOTALZ=533 TOTALLOD=14 LODRES=0.0035	RDF#80 PEPPER BELL (5%CT) 2002-03 SWEET PEPPERS PDP data 927 samples/9 detects TOTALZ=881 TOTALLOD=37 LODRES=0.015 8, 0.005 0.06	RDF#52 PEPPER BELL-DRIED (5%CT) 2002-03 SWEET PEPPERS PDP data 927 samples/9 detects TOTALZ=0 TOTALLOD=918 LODRES=0.015 8, 0.005 0.06
Chronic: 1%CT 0.011/549= 0.00002	Chronic: 1%CT 0.019/547= 0.000035	Chronic: 1%CT 0.1/927= 0.0001	Chronic: 1%CT 13.87/927= 0.015
RDF#78 PEAR (2.5%CT) 2003 PDP data 187 samples/0 detects TOTALZ=182 TOTALLOD=5 LODRES=0.0025	RDF#77 PEARS-CANNED (2.5%CT) 2000 PDP data 366 samples/0 detects TOTALZ=357 TOTALLOD=9 LODRES=0.004	PINEAPPLE (100%CT) 2000-02 PDP data 1454 samples/0 detects 2 LOD=0.028 'use point estimate of 0.028 ppm'	RDF#53 POTATO (2.5%CT) 2000-02 PDP data 1464 samples/0 detects TOTALZ=1427 TOTALLOD=37 LODRES=0.004
Chronic: 1%CT 0.005/187= 0.000025	Chronic: 1%CT 0.015/366=0.00004	Chronic: 100%CT =0.028	Chronic: 1%CT 0.059/1464= 0.00004
RDF#54 RADISH (1%CT)92-98 FDA data 121 samples/0 detects	RDF#55 RASPBERRY (40%CT) 1994-99 FDA data 178 samples/18 detects	RDF#57 SPINACH (2.5%CT) 2002-03 PDP data 1099 samples/0 detects	RDF#58 SPINACH-FROZEN (2.5%CT) 1999 PDP data 715 samples/14 detects

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

TOTALZ=120 TOTALLOD=1 LODRES=0.01	TOTALZ=125 TOTALLOD=53 LODRES=0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.15 0.15 0.02 0.022 0.204 0.031 0.06 0.023 0.062 0.053	TOTALZ=1072 TOTALLOD=27 LODRES=0.002 0.1 0.5 0.41 0.079 0.06 0.058 0.055 0.027 0.015 0.014 0.013 0.012 0.007 0.005	TOTALZ=697 TOTALLOD=4 LODRES=0.005 1.1 0.5 0.41 0.079 0.06 0.058 0.055 0.027 0.015 0.014 0.013 0.012 0.007 0.005																																																																																		
Chronic: 1%CT 0.012/121= 0.0001	Chronic: 40%CT 1.375/178= 0.008	Chronic: 1%CT 0.022/1099= 0.00002	Chronic: 1%CT 2.355/715= 0.003																																																																																		
RDF#59 SUMMER SQUASH (5%CT)1994-99 FDA data 388 samples/0 detects TOTALZ=369 TOTALLOD=19 LODRES=0.01	RDF#61 SWEET POTATO (2.5%CT) 2003 PDP data 734 samples/4 detects TOTALZ=716 TOTALLOD=14 LODRES=0.005 4, 0.0022	RDF#62 TOMATO (5%CT) 2003 PDP data 742 samples/0 detects TOTALZ=705 TOTALLOD=37 LODRES=0.005	RDF#63 TOMATO-CANNED (5%CT) 1999-2000 PDP data 737 samples/1 detects TOTALZ=700 TOTALLOD=36 LODRES=0.008 0.007																																																																																		
Chronic: 5%CT 0.19/388= 0.0005	Chronic: 1%CT 0.024/734= 0.00003	Chronic: 1%CT 0.037/742= 0.00005	Chronic: 1%CT 0.055/737= 0.0001																																																																																		
RDF#66 2662 samples/ 587 detects WHEAT- FLOUR 2003-04 PDP DATA 100%CT TOTALZ=0 TOTALLOD=2075 LODRES=0.0025 <table> <tbody> <tr><td>0.685</td><td>0.017</td><td>0.0107</td><td>0.005</td><td>0.026</td><td>0.005</td></tr> <tr><td>0.24</td><td>0.017</td><td>0.0106</td><td>0.005</td><td>0.026</td><td>0.005</td></tr> <tr><td>0.126</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0257</td><td>0.005</td></tr> <tr><td>0.123</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0251</td><td>0.005</td></tr> <tr><td>0.106</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.025</td><td>0.005</td></tr> <tr><td>0.094</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0248</td><td>0.005</td></tr> <tr><td>0.0912</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0243</td><td>0.005</td></tr> <tr><td>0.085</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0239</td><td>0.005</td></tr> <tr><td>0.082</td><td>0.017</td><td>0.005</td><td>0.005</td><td>0.0237</td><td>0.005</td></tr> <tr><td>0.069</td><td>0.0165</td><td>0.005</td><td>0.005</td><td>0.0234</td><td>0.005</td></tr> <tr><td>0.0678</td><td>0.0163</td><td>0.005</td><td>0.005</td><td>0.0234</td><td>0.005</td></tr> <tr><td>0.066</td><td>0.016</td><td>0.005</td><td>0.005</td><td>0.0232</td><td>0.005</td></tr> <tr><td>0.066</td><td>0.016</td><td>0.005</td><td>0.005</td><td>0.023</td><td>0.005</td></tr> <tr><td>0.065</td><td>0.016</td><td>0.005</td><td>0.005</td><td>0.023</td><td>0.005</td></tr> </tbody> </table>	0.685	0.017	0.0107	0.005	0.026	0.005	0.24	0.017	0.0106	0.005	0.026	0.005	0.126	0.017	0.005	0.005	0.0257	0.005	0.123	0.017	0.005	0.005	0.0251	0.005	0.106	0.017	0.005	0.005	0.025	0.005	0.094	0.017	0.005	0.005	0.0248	0.005	0.0912	0.017	0.005	0.005	0.0243	0.005	0.085	0.017	0.005	0.005	0.0239	0.005	0.082	0.017	0.005	0.005	0.0237	0.005	0.069	0.0165	0.005	0.005	0.0234	0.005	0.0678	0.0163	0.005	0.005	0.0234	0.005	0.066	0.016	0.005	0.005	0.0232	0.005	0.066	0.016	0.005	0.005	0.023	0.005	0.065	0.016	0.005	0.005	0.023	0.005	RDF #64 BLENDED TOMATO-PASTE (5%CT) 2001 PDP data 369 samples/0 detects TOTALZ=0 TOTALLOD=369 LODRES=0.003 All at 1/2 LOD=0.003
0.685	0.017	0.0107	0.005	0.026	0.005																																																																																
0.24	0.017	0.0106	0.005	0.026	0.005																																																																																
0.126	0.017	0.005	0.005	0.0257	0.005																																																																																
0.123	0.017	0.005	0.005	0.0251	0.005																																																																																
0.106	0.017	0.005	0.005	0.025	0.005																																																																																
0.094	0.017	0.005	0.005	0.0248	0.005																																																																																
0.0912	0.017	0.005	0.005	0.0243	0.005																																																																																
0.085	0.017	0.005	0.005	0.0239	0.005																																																																																
0.082	0.017	0.005	0.005	0.0237	0.005																																																																																
0.069	0.0165	0.005	0.005	0.0234	0.005																																																																																
0.0678	0.0163	0.005	0.005	0.0234	0.005																																																																																
0.066	0.016	0.005	0.005	0.0232	0.005																																																																																
0.066	0.016	0.005	0.005	0.023	0.005																																																																																
0.065	0.016	0.005	0.005	0.023	0.005																																																																																

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.0551	0.016	0.005	0.005	0.023	0.005
0.055	0.016	0.005	0.005	0.0229	0.005
0.055	0.0158	0.005	0.005	0.0224	0.005
0.0543	0.0157	0.005	0.005	0.022	0.005
0.048	0.0154	0.005	0.005	0.022	0.005
0.0456	0.0154	0.005	0.005	0.022	0.005
0.045	0.0153	0.005	0.005	0.0216	0.005
0.045	0.0152	0.005	0.005	0.0216	0.005
0.0447	0.015	0.005	0.005	0.0205	0.005
0.044	0.015	0.005	0.005	0.0204	0.005
0.0438	0.015	0.005	0.005	0.0201	0.005
0.0431	0.015	0.005	0.005	0.02	0.005
0.0427	0.015	0.005	0.005	0.0196	0.005
0.0423	0.015	0.005	0.005	0.0195	0.005
0.042	0.015	0.005	0.005	0.0194	0.005
0.041	0.015	0.005	0.005	0.0194	0.005
0.04	0.015	0.005	0.005	0.0193	0.005
0.0398	0.015	0.005	0.005	0.0192	0.005
0.038	0.015	0.005	0.005	0.019	0.005
0.038	0.0147	0.005	0.005	0.019	0.005
0.038	0.0147	0.005	0.005	0.019	0.005
0.0373	0.0145	0.005	0.005	0.019	0.005
0.037	0.0145	0.005	0.005	0.0189	0.005
0.036	0.0143	0.005	0.005	0.0188	0.005
0.036	0.0143	0.005	0.005	0.0183	0.005
0.035	0.0142	0.005	0.005	0.0182	0.005
0.035	0.014	0.005	0.005	0.018	0.005
0.035	0.014	0.005	0.005	0.018	0.005
0.0342	0.014	0.005	0.005	0.018	0.005
0.034	0.014	0.005	0.005	0.0175	0.005
0.033	0.014	0.005	0.005	0.017	0.005
0.0327	0.0134	0.005	0.005	0.017	0.005
0.032	0.0131	0.005	0.005	0.0162	0.005
0.0319	0.0131	0.005	0.005	0.0162	0.005
0.0318	0.013	0.005	0.005	0.016	0.005
0.0311	0.013	0.005	0.005	0.016	0.005
0.03	0.013	0.005	0.005	0.0159	0.005
0.03	0.013	0.005	0.005	0.0155	0.005
0.0295	0.013	0.005	0.005	0.0155	0.005
0.029	0.013	0.005	0.005	0.0153	0.005
0.028	0.013	0.005	0.005	0.0152	0.005
0.028	0.013	0.005	0.005	0.0151	0.005
0.028	0.013	0.005	0.005	0.015	0.005
0.028	0.013	0.005	0.005	0.015	0.005
0.027	0.0129	0.005	0.005	0.015	0.005
0.027	0.0127	0.005	0.005	0.0145	0.005
0.027	0.0124	0.005	0.005	0.0142	0.005
0.0266	0.0122	0.005	0.005	0.0142	0.005
0.0262	0.0122	0.005	0.328	0.014	0.005

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.026	0.0122	0.005	0.252	0.014	0.005	
0.026	0.0121	0.005	0.17	0.014	0.005	
0.0257	0.0121	0.005	0.126	0.014	0.005	
0.025	0.012	0.005	0.104	0.0134	0.005	
0.025	0.012	0.005	0.102	0.0134	0.005	
0.0247	0.012	0.005	0.093	0.0133	0.005	
0.024	0.012	0.005	0.0733	0.0131	0.005	
0.024	0.012	0.005	0.071	0.013	0.005	
0.0237	0.012	0.005	0.065	0.013	0.005	
0.023	0.012	0.005	0.0627	0.0129	0.005	
0.023	0.012	0.005	0.0575	0.0129	0.005	
0.021	0.012	0.005	0.053	0.0127	0.005	
0.021	0.012	0.005	0.049	0.0127	0.005	
0.021	0.012	0.005	0.049	0.0127	0.005	
0.02	0.012	0.005	0.044	0.0126	0.005	
0.02	0.012	0.005	0.043	0.0123	0.005	
0.02	0.012	0.005	0.041	0.0123	0.005	
0.02	0.012	0.005	0.0409	0.012	0.005	
0.0196	0.0119	0.005	0.0401	0.012	0.005	
0.0193	0.0113	0.005	0.04	0.012	0.005	
0.019	0.0111	0.005	0.038	0.012	0.005	
0.019	0.011	0.005	0.0378	0.012	0.005	
0.019	0.011	0.005	0.0358	0.012	0.005	
0.019	0.011	0.005	0.0349	0.012	0.005	
0.019	0.011	0.005	0.033	0.012	0.005	
0.019	0.011	0.005	0.0318	0.012	0.005	
0.0181	0.011	0.005	0.031	0.012	0.005	
0.018	0.011	0.005	0.031	0.012	0.005	
0.018	0.011	0.005	0.0301	0.0117	0.005	
0.018	0.011	0.005	0.03	0.0114		
0.018	0.011	0.005	0.0295	0.0113		
0.018	0.011	0.005	0.0287	0.011		
	0.011	0.005	0.0273	0.011		
	0.011	0.005	0.0271	0.0109		
	0.011	0.005	0.027	0.005		
	0.0109	0.005	0.0264	0.005		
	0.0109	0.005	0.005			
		0.005				
Chronic: 1%CT: 0.019/2662*0.01						Chronic: 1%CT 0.011/369= 0.00003
RDF#60 1158samples/171 detects STRAWBERRY (30%CT) 1999-2000 PDP data TOTALZ=811 TOTALLOD=171 LODRES=0.0035 0.516 0.013 0.023			RDF#56 BLENDED 2684 samples/ 127 detects RICE (100%CT)2000-02 PDP data TOTALZ=0 TOTALLOD=2557 LODRES=0.003			

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.313	0.013	0.022	0.097	0.008	0.008
0.305	0.013	0.02	0.063	0.008	0.008
0.16	0.013	0.018	0.058	0.008	0.008
0.126	0.013	0.017	0.029	0.008	0.008
0.14	0.013	0.017	0.024	0.008	0.008
0.167	0.013	0.015	0.017	0.008	0.008
0.119	0.013	0.015	0.017	0.008	0.008
0.15	0.013	0.015	0.008	0.008	0.008
0.119	0.013	0.015	0.008	0.008	0.008
0.113	0.013	0.015	0.008	0.008	0.008
0.166	0.013	0.015	0.008	0.008	0.008
0.152	0.013	0.015	0.008	0.008	0.008
0.062	0.013	0.015	0.008	0.008	0.008
0.062	0.013	0.015	0.008	0.008	0.008
0.062	0.013	0.015	0.008	0.008	0.008
0.063	0.013	0.015	0.008	0.008	0.008
0.05	0.013	0.015	0.008	0.008	0.127
0.05	0.013	0.014	0.008	0.008	0.054
0.05	0.013	0.013	0.008	0.008	0.047
0.049	0.013	0.013	0.008	0.008	0.045
0.046	0.013	0.013	0.037	0.008	0.023
0.046	0.013	0.013	0.023	0.008	0.022
0.045	0.013	0.013	0.021	0.008	0.022
0.043	0.013	0.013	0.019	0.008	0.02
0.042	0.013	0.013	0.019	0.008	0.02
0.041	0.013	0.013	0.019	0.008	0.019
0.038	0.013	0.013	0.018	0.008	0.018
0.038	0.013	0.013	0.018	0.008	0.018
0.036	0.013	0.013	0.018	0.008	0.018
0.036	0.007	0.013	0.018	0.008	0.017
0.035	0.007	0.013	0.017	0.008	0.017
0.035	0.007	0.013	0.017	0.008	0.008
0.034	0.007	0.013	0.017	0.008	0.008
0.032	0.007	0.013	0.017	0.008	0.008
0.032	0.007	0.012	0.016	0.008	0.008
0.032	0.007	0.01	0.008	0.008	0.008
0.03	0.007	0.009	0.008	0.008	0.008
0.03	0.007	0.009	0.008	0.008	0.008
0.028	0.007	0.008	0.008	0.008	0.008
0.026	0.007	0.007	0.008	0.008	0.008
0.025	0.007	0.007	0.008	0.008	0.008
0.018	0.24	0.007		0.008	0.008
0.015	0.16	0.007		0.008	0.008
0.013	0.15	0.007			
0.013	0.097	0.007			
0.013	0.096	0.007			
0.013	0.094	0.007			
0.013	0.074	0.006			
0.013	0.068	0.003			

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.013	0.066	0.003		
0.013	0.06	0.003		
0.013	0.059	0.039		
0.048	0.052	0.03		
0.04	0.043	0.04		
Chronic: 25%CT 5.276/1158=0.005			Chronic: 15%CT 0.5539/561=0.001	
RDF#24 1473 samples/339 detects CELERY (15%CT) 2002-01 PDP data TOTALZ=1134 TOTALLOD=0 LODRS=0.002	RDF#26 561 samples/76 detects CHERRY (25%CT) 2000-01 PDP data TOTALZ=421 TOTALLOD=64 LODRS=0.002			
5.61	0.06	0.007	0.061	0.018
0.38	0.06	0.007	0.06	0.021
0.37	0.059	0.007	0.059	0.015
0.29	0.057	0.007	0.059	0.013
0.29	0.054	0.007	0.056	0.011
0.28	0.054	0.007	0.056	0.007
0.27	0.054	0.007	0.056	0.007
0.26	0.053	0.005	0.056	0.007
0.25	0.051	0.003	0.054	0.007
0.23	0.05	0.003	0.051	0.007
0.22	0.05	0.003	0.051	0.007
0.22	0.05	0.003	0.051	0.0064
0.22	0.049	0.003	0.05	0.006
0.22	0.046	0.003	0.049	0.0052
0.21	0.045	0.003	0.049	0.003
0.21	0.045	0.003	0.049	0.003
0.2	0.045	0.003	0.047	0.003
0.19	0.044	0.003	0.047	0.003
0.18	0.042	0.003	0.046	0.003
0.18	0.041	0.003	0.046	0.003
0.17	0.04	0.003	0.044	0.003
0.17	0.039	0.003	0.042	0.003
0.16	0.038	0.003	0.04	0.003
0.16	0.038	0.003	0.039	0.003
0.15	0.036	0.003	0.039	0.003
0.15	0.035	0.52	0.039	0.003
0.15	0.035	0.47	0.037	0.003
0.15	0.035	0.43	0.037	0.003
0.15	0.035	0.39	0.036	0.003
0.15	0.034	0.38	0.036	0.003
0.15	0.033	0.38	0.034	0.003
0.14	0.033	0.35	0.034	0.003
0.14	0.032	0.31	0.034	0.003
0.14	0.031	0.29	0.033	0.063
				0.004
				0.026
				0.004

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.14	0.029	0.27	0.033	0.025	0.004	
0.13	0.029	0.24	0.031	0.025	0.004	
0.13	0.029	0.24	0.031	0.004	0.004	
0.13	0.029	0.2	0.03	0.004	0.004	
0.12	0.027	0.19	0.028			
0.12	0.027	0.18	0.026			
0.12	0.026	0.18	0.026			
0.12	0.026	0.18	0.026			
0.11	0.026	0.17	0.024			
0.11	0.026	0.16	0.023			
0.11	0.025	0.16	0.022			
0.11	0.025	0.16	0.021			
0.11	0.023	0.16	0.02			
0.11	0.021	0.15	0.02			
0.1	0.021	0.15	0.019			
0.098	0.021	0.15	0.019			
0.095	0.021	0.14	0.018			
0.094	0.02	0.13	0.017			
0.091	0.02	0.13	0.017			
0.089	0.019	0.13	0.017			
0.089	0.019	0.13	0.016			
0.088	0.019	0.13	0.015			
0.087	0.019	0.13	0.013			
0.086	0.018	0.12	0.012			
0.086	0.018	0.12	0.0097			
0.085	0.018	0.12	0.0094			
0.083	0.017	0.12	0.0093			
0.081	0.017	0.11	0.0085			
0.081	0.017	0.11	0.0082			
0.079	0.016	0.11	0.0082			
0.079	0.016	0.11	0.0082			
0.079	0.015	0.11	0.0079			
0.078	0.015	0.11	0.0071			
0.077	0.015	0.1	0.007			
0.073	0.015	0.1	0.007			
0.073	0.014	0.099	0.007			
0.07	0.014	0.097	0.007			
0.069	0.012	0.097	0.007			
0.069	0.011	0.095	0.007			
0.068	0.011	0.093	0.007			
0.067	0.011	0.092	0.007			
0.065	0.011	0.091	0.003			
0.064	0.01	0.083	0.003			
0.064	0.008	0.081	0.003			
0.062	0.008	0.08	0.003			
0.062	0.007	0.078	0.003			
0.061	0.007	0.078	0.003			
0.003	0.007	0.075	0.003			
0.003	0.007	0.074	0.003			

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.066	0.007	0.072	0.003										
		0.007	0.069	0.003									
Chronic: 5%CT $34.044/1473=0.02$				Chronic: 25%CT $5.276/1158=0.005$									
RDF#87 2722 samples/ 884 detects WHEAT- GRAIN 2005-06 PDP DATA 2.5%CT TOTALZ=0 TOTALLOD=1838 LODRES=0.0025													
2.37 0.085 0.024 0.012 0.005 0.131 0.046 0.018 0.005 2.244 0.083 0.024 0.012 0.005 0.125 0.046 0.018 0.005 2.075 0.081 0.024 0.011 0.005 0.123 0.046 0.018 0.005 1.643 0.079 0.024 0.011 0.005 0.119 0.046 0.018 0.005 1.4 0.078 0.023 0.011 0.005 0.116 0.045 0.018 0.005 1.173 0.078 0.023 0.011 0.005 0.115 0.045 0.018 0.005 0.901 0.077 0.023 0.011 0.005 0.115 0.045 0.018 0.005 0.846 0.077 0.023 0.011 0.005 0.115 0.043 0.017 0.005 0.816 0.07 0.022 0.011 0.005 0.112 0.042 0.017 0.005 0.692 0.07 0.022 0.011 0.005 0.112 0.042 0.017 0.005 0.677 0.069 0.022 0.011 0.005 0.111 0.042 0.017 0.005 0.646 0.068 0.022 0.011 0.005 0.109 0.042 0.017 0.005 0.613 0.068 0.022 0.011 0.005 0.109 0.041 0.017 0.005 0.612 0.068 0.022 0.011 0.005 0.108 0.041 0.017 0.005 0.582 0.066 0.022 0.011 0.005 0.107 0.04 0.016 0.005 0.545 0.063 0.022 0.011 0.005 0.107 0.04 0.016 0.005 0.51 0.063 0.022 0.011 0.005 0.105 0.04 0.016 0.005 0.507 0.062 0.021 0.011 0.005 0.104 0.04 0.016 0.005 0.502 0.062 0.021 0.005 0.005 0.103 0.039 0.016 0.005 0.502 0.062 0.021 0.005 0.005 0.103 0.039 0.016 0.005 0.498 0.059 0.02 0.005 0.005 0.101 0.039 0.015 0.005 0.493 0.059 0.02 0.005 0.005 0.101 0.039 0.015 0.005 0.404 0.058 0.02 0.005 0.005 0.101 0.039 0.015 0.005 0.404 0.058 0.02 0.005 0.005 0.1 0.038 0.015 0.005 0.362 0.057 0.02 0.005 0.005 0.099 0.038 0.015 0.005 0.36 0.057 0.019 0.005 0.005 0.099 0.036 0.015 0.005 0.359 0.056 0.019 0.005 0.005 0.095 0.035 0.015 0.005 0.353 0.055 0.019 0.005 0.005 0.093 0.034 0.015 0.005 0.342 0.055 0.019 0.005 0.005 0.091 0.034 0.015 0.005 0.312 0.054 0.019 0.005 0.005 0.091 0.034 0.014 0.005 0.308 0.054 0.019 0.005 0.005 0.091 0.033 0.014 0.005 0.307 0.054 0.018 0.005 0.005 0.09 0.033 0.014 0.005 0.306 0.054 0.018 0.005 0.005 0.089 0.033 0.014 0.005 0.305 0.052 0.018 0.005 0.005 0.088 0.032 0.014 0.005													

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.303	0.052	0.018	0.005	0.005	0.083	0.032	0.014	0.005
0.275	0.052	0.018	0.005	0.005	0.083	0.032	0.014	0.005
0.271	0.051	0.018	0.005	2.577	0.082	0.032	0.014	0.005
0.271	0.05	0.017	0.005	1.833	0.081	0.032	0.014	0.005
0.269	0.049	0.017	0.005	1.424	0.08	0.031	0.014	0.005
0.268	0.049	0.017	0.005	1.328	0.08	0.031	0.014	0.005
0.25	0.049	0.017	0.005	0.923	0.079	0.031	0.014	0.005
0.245	0.048	0.017	0.005	0.798	0.078	0.03	0.013	0.005
0.243	0.048	0.017	0.005	0.721	0.078	0.03	0.013	0.005
0.243	0.047	0.017	0.005	0.7	0.077	0.03	0.013	0.005
0.239	0.047	0.017	0.005	0.645	0.077	0.03	0.013	0.005
0.23	0.046	0.017	0.005	0.631	0.077	0.03	0.013	0.005
0.228	0.046	0.017	0.005	0.531	0.076	0.029	0.013	0.005
0.226	0.046	0.017	0.005	0.459	0.075	0.029	0.013	0.005
0.221	0.044	0.016	0.005	0.445	0.075	0.029	0.013	0.005
0.221	0.044	0.016	0.005	0.442	0.074	0.029	0.013	0.005
0.216	0.043	0.016	0.005	0.404	0.073	0.028	0.013	0.005
0.207	0.043	0.016	0.005	0.363	0.073	0.028	0.012	0.005
0.2	0.043	0.016	0.005	0.359	0.072	0.028	0.012	0.005
0.199	0.043	0.016	0.005	0.35	0.072	0.028	0.012	0.005
0.183	0.042	0.016	0.005	0.343	0.071	0.027	0.012	0.005
0.18	0.041	0.016	0.005	0.331	0.07	0.027	0.012	0.005
0.172	0.04	0.016	0.005	0.324	0.069	0.026	0.012	0.005
0.171	0.039	0.015	0.005	0.311	0.069	0.026	0.012	0.005
0.166	0.039	0.015	0.005	0.299	0.068	0.026	0.012	0.005
0.164	0.039	0.015	0.005	0.299	0.068	0.026	0.012	0.005
0.154	0.038	0.015	0.005	0.296	0.068	0.026	0.012	0.005
0.15	0.038	0.015	0.005	0.294	0.068	0.025	0.012	0.005
0.143	0.038	0.015	0.005	0.285	0.067	0.025	0.011	0.005
0.14	0.038	0.015	0.005	0.283	0.066	0.025	0.011	0.005
0.135	0.038	0.015	0.005	0.283	0.064	0.025	0.011	0.005
0.132	0.037	0.015	0.005	0.268	0.063	0.025	0.011	0.005
0.126	0.037	0.015	0.005	0.262	0.063	0.025	0.011	0.005
0.124	0.037	0.015	0.005	0.261	0.062	0.024	0.011	0.005
0.121	0.036	0.015	0.005	0.257	0.062	0.024	0.011	0.005
0.119	0.036	0.015	0.005	0.243	0.062	0.023	0.011	0.005
0.118	0.036	0.015	0.005	0.241	0.06	0.023	0.011	0.005
0.116	0.035	0.015	0.005	0.24	0.06	0.023	0.011	0.005
0.115	0.035	0.014	0.005	0.239	0.06	0.023	0.011	0.005
0.114	0.035	0.014	0.005	0.233	0.06	0.023	0.011	0.005
0.112	0.034	0.014	0.005	0.222	0.059	0.022	0.011	0.005
0.111	0.034	0.014	0.005	0.212	0.058	0.022	0.011	0.005
0.11	0.033	0.014	0.005	0.207	0.058	0.022	0.005	0.005
0.109	0.033	0.014	0.005	0.201	0.057	0.022	0.005	0.005
0.107	0.032	0.014	0.005	0.201	0.056	0.022	0.005	0.005
0.106	0.031	0.014	0.005	0.196	0.056	0.022	0.005	0.005
0.104	0.031	0.014	0.005	0.193	0.056	0.021	0.005	0.005
0.104	0.031	0.013	0.005	0.193	0.055	0.021	0.005	0.005
0.103	0.031	0.013	0.005	0.188	0.055	0.021	0.005	0.005

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

0.102	0.03	0.013	0.005	0.187	0.055	0.021	0.005	0.005
0.099	0.03	0.013	0.005	0.183	0.055	0.02	0.005	0.005
0.099	0.03	0.013	0.005	0.174	0.054	0.02	0.005	0.005
0.094	0.03	0.013	0.005	0.171	0.054	0.02	0.005	0.005
0.09	0.029	0.013	0.005	0.164	0.053	0.02	0.005	
0.089	0.029	0.013	0.005	0.154	0.053	0.02	0.005	
0.089	0.029	0.013	0.005	0.151	0.052	0.02	0.005	
0.088	0.027	0.013	0.005	0.151	0.05	0.02	0.005	
0.088	0.027	0.012	0.005	0.149	0.05	0.019	0.005	
0.088	0.027	0.012	0.005	0.149	0.049	0.019	0.005	
0.087	0.027	0.012	0.005	0.148	0.049	0.019	0.005	
0.087	0.026	0.012	0.005	0.143	0.048	0.019	0.005	
0.086	0.025	0.012	0.005	0.142	0.048	0.019	0.005	
0.024	0.025	0.012	0.005	0.14	0.047	0.019	0.005	
	0.025	0.012	0.005	0.139	0.047	0.018	0.005	
	0.025	0.012	0.005	0.139	0.047	0.018	0.005	
	0.025	0.012	0.005	0.136	0.046	0.018	0.005	

Chronic: 1%CT
0.09/2722*0.01

FIELD TRIAL DATA

RDF#67 CHESTNUTS FIELD TRIAL data 100%CT 4 samples/3 detects TOTALZ=0 TOTALNZ=4	BLENDED COTTON FIELD TRIAL data 19 samples/14 detects 40%CT 5.22 7.22 6 11.28 8.5 4.64 4.88 3.04 6.34 4.6 3.44 4.58 6.94 3.42 2.325 7.125 4.725 3.225 1.525 x= 136.075/19= 7.16	RDF#68 DATES Field Trial Data (58% ct) TOTALZ=3 TOTALNZ=4 0.004 8.866 7.924 5.63	RDF#69 FIGS FIELD TRIAL data-MRID 44061201 12 samples/12 detects 1 %CT TOTALZ=1188 TOTALNZ=12 0.114 0.143 0.222 0.342 0.565 0.978 0.038 0.108 0.261 0.387 0.303 0.392
Chronic: 100%CT 1.044/4= 0.261	Chronic: 15%CT 7.16*0.15= 1.074	Chronic: 29%CT 12.431*0.29= 3.60	Chronic: 1%CT 0.321*0.01= 0.003
RDF#71 MACADAMIA NUTS FIELD TRIAL data-MRID 44076801 8 samples/0 detects 5%CT TOTALZ=152	RDF#72 MANGO FIELD TRIAL data-MRID 4448030 10 samples/1 detects 100%CT TOTALZ=0 TOTALNZ=10	BLENDED MINT FIELD TRIAL data 8 samples/8 detects 15%CT 0.64	RDF#73 PAPAYA FIELD TRIAL data-MRID 44331001 14 samples/10 detects 100%CT TOTALZ=0 TOTALNZ=14

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

TOTALNZ=8 8, 0.05	9, 0.05 0.094	1.01 1.31 1.41 0.41 0.54 3.36 1.99 $x = 16.52/8 = 2.065$	0.085 0.085 0.295 0.375 0.465 0.585 0.075 0.085 0.125 0.135 4, 0.05
Chronic: 5%CT $0.05 * 0.05 = 0.0025$	Chronic: 100%CT 0.0544	Chronic: 15%CT $2.065 * 0.15 = 0.310$	Chronic: 100%CT $2.51 / 14 = 0.179$
RDF#74 PASSION FRUITS FIELD TRIAL data-MRID 44472801 12 samples/2 detects 100%CT TOTALZ=0 TOTALNZ=12	RDF#79 PECANS (WALNUT FIELD TRIAL data-MRID 44383301) 10 samples/0 detects 5%CT TOTALZ=190 TOTALNZ=10	RDF#70 GUAVA FIELD TRIAL data-MRID 44391501 100%CT TOTALZ=0 TOTALNZ=20 0.115 0.125 0.185 0.265 0.085 0.095 0.125 0.145 0.105 0.125 0.05 0.05 2.29 2.52 3.43 4.26 0.05 1.125 1.17 1.19 2.11 0.05 0.05	RDF#75 WALNUTS FIELD TRIAL data-MRID 44383301 10 samples/0 detects 5%CT TOTALZ=190 TOTALNZ=10 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05
Chronic: 100%CT $0.677 / 12 = 0.056$	Chronic: 1%CT $0.05 * 0.01 = 0.0005$	Chronic: 100%CT $49.985 / 20 = 2.499$	Chronic: 5%CT $0.05 * 0.05 = 0.0025$

Bold font is the TAF of 22x

Attachment 2: Acute Residue Input Data for Food Alone

U.S. Environmental Protection Agency
DEEM-FCID Acute analysis for MALATHION
Residue file name: C:\Deemfcid\malathion09\malathion\malathion22x.R98
Analysis Date 10-02-2009 Residue file dated: 10-02-2009/14:19:51/8
Reference dose: aRfD = 0.08 mg/kg bw/day NOEL = 7.6 mg/kg bw/day
Comment: New TAF of 22x and acute endpoint- food only

RDL indices and parameters for Monte Carlo Analysis:

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Index	Dist	Parameter #1	Param #2	Param #3	Comment
#	Code				
1	6	APPLES-NB.rdf			
2	6	APPLES-PB.rdf			
3	6	APPLEDRIED.rdf			
4	6	APPLEJUICE.rdf			
5	6	APPLESAUCE.rdf			
6	6	APRICOT.rdf			
7	6	ASPARAGUS.rdf			
8	6	ASPARAGUS-canned.rdf			
9	6	AVOCADO.rdf			
10	6	BARLEY_22x.rdf			
11	6	BEAN-DRIED.rdf			
12	6	GBEANS.rdf			
13	6	BEET-root.rdf			
14	6	BEET-top.rdf			
15	6	BLACKBERRY.rdf			
16	6	BLUEBERRY.rdf			
17	6	BROCCOLI.rdf			
18	6	BSPROUTS.rdf			
19	6	CABBAGE.rdf			
20	6	CARROT.rdf			
21	6	CARROT100.rdf			
22	6	CANTALOUPE.rdf			
23	6	CAULIFLOWER.rdf			
24	6	CELERY_22x.rdf			
25	6	CELERY100_22x.rdf			
26	6	CHERRY.rdf			
27	6	COLLARDS.rdf			
28	6	CORN-GRAIN.rdf			
29	6	CORN-SWEET.rdf			
30	6	CORN-SWEETcan.rdf			
31	6	CUCUMBER.rdf			
32	6	EGGPLANT.rdf			
33	6	GARLIC.rdf			
34	6	GRAPEFRUIT.rdf			
35	6	GRAPES_22x.rdf			
36	6	KALE.rdf			
37	6	LETTUCE.rdf			
38	6	MGREENS.rdf			
39	6	NECTARINE.rdf			
40	6	OATS.rdf			
41	6	OKRA.rdf			
42	6	ONION.rdf			
43	6	ONION-DRIED.rdf			
44	6	ORANGE.rdf			
45	6	PEACH-canned.rdf			
46	6	PEACHDRIED.rdf			
47	6	PEACH-NB.rdf			
48	6	PEACH-PB.rdf			
49	6	PEAS-CAN.rdf			
50	6	PEAS-SWEET_FROZEN.rdf			
51	6	PEAS-SWEET.rdf			
52	6	PEPPERdried.rdf			
53	6	POTATO.rdf			
54	6	RADISH.rdf			
55	6	RASPBERRY.rdf			
56	6	RICE.rdf			
57	6	SPINACH.rdf			
58	6	SPINACH-FROZ.rdf			
59	6	SSQUASH.rdf			
60	6	STRAWBERRY_22x.rdf			
61	6	SWEET_POTATO.rdf			
62	6	TOMATO.rdf			
63	6	TOMATO-CAN.rdf			
64	6	TOMATO-PASTE.rdf			
65	6	TURNIPGREEN.rdf			
66	6	WHEATflour_post.rdf			
67	6	CHESTNUT.rdf			

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

```

68   6   DATES_22x.rdf
69   6   FIGS.rdf
70   6   GUAVA_22x.rdf
71   6   MACADAMIA-NUT.rdf
72   6   MANGO.rdf
73   6   PAPAYA.rdf
74   6   PASSIONFRUIT.rdf
75   6   WALNUT.rdf
76   6   CORN-SWEETfrozen.rdf
77   6   PEAR-CAN.rdf
78   6   PEAR-PB.rdf
79   6   PECAN.rdf
80   6   PEPPER-SWEET.rdf
81   6   TOMATODRIED.rdf
82   6   POTATOdried.rdf
83   6   LEMON.rdf
84   6   ALMOND.rdf
85   6   CRANBERRY.rdf
86   6   Mala01_TS.rdf
87   6   WHEATgrain_post.rdf

```

EPA Code	Crop Grp	Food Name	Def Res (ppm)	Adj. Factors #1	Adj. Factors #2	RDL Pntr	Comment
14000030	14	Almond	0.050000	1.000	1.000	84	
14000031	14	Almond-babyfood	0.050000	1.000	1.000	84	
14000040	14	Almond, oil	0.050000	1.000	0.025		
14000041	14	Almond, oil-babyfood	0.050000	1.000	0.025		
04010050	4A	Amaranth, leafy	0.002000	1.000	1.000		
11000070	11	Apple, fruit with peel					
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	1	
		150-Uncooked; Cured etc; Cook Meth N/S	0.010000	1.000	1.000	1	
		211-Cooked; Fresh or N/S; Baked	0.010000	1.000	1.000	1	
		213-Cooked; Fresh or N/S; Fried	0.010000	1.000	1.000	1	
11000080	11	Apple, peeled fruit					
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	1	
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	1	
		211-Cooked; Fresh or N/S; Baked	0.010000	1.000	1.000	1	
		213-Cooked; Fresh or N/S; Fried	0.010000	1.000	1.000	1	
		221-Cooked; Frozen; Baked	0.010000	1.000	1.000	2	
		232-Cooked; Dried; Boiled	0.010000	1.000	1.000	1	
		240-Cooked; Canned; Cook Meth N/S	0.010000	1.000	1.000	2	
11000081	11	Apple, peeled fruit-babyfood					
		240-Cooked; Canned; Cook Meth N/S	0.010000	1.000	1.000	2	
11000090	11	Apple, dried	0.010000	8.000	1.000	3	
11000091	11	Apple, dried-babyfood	0.010000	8.000	1.000	3	
11000100	11	Apple, juice	0.020000	1.000	1.000	4	
11000101	11	Apple, juice-babyfood	0.020000	1.000	1.000	4	
11000110	11	Apple, sauce					
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	5	
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	5	
		211-Cooked; Fresh or N/S; Baked	0.010000	1.000	1.000	5	
		212-Cooked; Fresh or N/S; Boiled	0.010000	1.000	1.000	5	
		221-Cooked; Frozen; Baked	0.010000	1.000	1.000	5	
		240-Cooked; Canned; Cook Meth N/S	0.010000	1.000	1.000	5	

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

11000111	11	Apple, sauce-babyfood					
		240-Cooked; Canned; Cook Meth N/S					
12000120	12	Apricot	0.010000	1.000	1.000	5	
12000121	12	Apricot-babyfood	0.043000	1.000	1.000	6	
12000130	12	Apricot, dried	0.043000	1.000	1.000	6	
12000140	12	Apricot, juice	0.010000	1.000	1.000	6	
12000141	12	Apricot, juice-babyfood	0.010000	1.000	1.000	6	
04010180	4A	Arugula	0.002000	1.000	1.000		
95000190	O	Asparagus					
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	7	
		212-Cooked; Fresh or N/S; Boiled	0.010000	1.000	1.000	7	
		213-Cooked; Fresh or N/S; Fried	0.010000	1.000	1.000	7	
		222-Cooked; Frozen; Boiled	0.010000	1.000	1.000	7	
		242-Cooked; Canned; Boiled	0.010000	1.000	1.000	8	
95000200	O	Avocado	0.010000	1.000	1.000	9	
15000250	15	Barley, pearled barley	0.105000	1.000	1.000	10	
15000251	15	Barley, pearled barley-babyfood	0.105000	1.000	1.000	10	
15000260	15	Barley, flour	0.105000	1.000	1.000	10	
15000261	15	Barley, flour-babyfood	0.105000	1.000	1.000	10	
15000270	15	Barley, bran	0.105000	1.000	1.000	10	
06030300	6C	Bean, black, seed	0.017000	1.000	1.000	11	
06020310	6B	Bean, broad, succulent	0.017000	1.000	1.000	12	
06030320	6C	Bean, broad, seed	0.017000	1.000	1.000	11	
06020330	6B	Bean, cowpea, succulent	0.017000	1.000	1.000	12	
06030340	6C	Bean, cowpea, seed	0.017000	1.000	1.000	11	
06030350	6C	Bean, great northern, seed	0.017000	1.000	1.000	11	
06030360	6C	Bean, kidney, seed	0.017000	1.000	1.000	11	
06020370	6B	Bean, lima, succulent	0.017000	1.000	1.000	12	
06030380	6C	Bean, lima, seed	0.017000	1.000	1.000	11	
06030390	6C	Bean, mung, seed	0.017000	1.000	1.000	11	
06030400	6C	Bean, navy, seed	0.017000	1.000	1.000	11	
06030410	6C	Bean, pink, seed	0.017000	1.000	1.000	11	
06030420	6C	Bean, pinto, seed	0.017000	1.000	1.000	11	
06010430	6A	Bean, snap, succulent	0.004000	1.000	1.000	12	
06010431	6A	Bean, snap, succulent-babyfood	0.004000	1.000	1.000	12	
01010500	1AB	Beet, garden, roots	0.010000	1.000	1.000	13	
01010501	1AB	Beet, garden, roots-babyfood	0.010000	1.000	1.000	13	
02000510	2	Beet, garden, tops	0.010000	1.000	1.000	14	
01010520	1A	Beet, sugar	0.010000	1.000	0.025		
01010521	1A	Beet, sugar-babyfood	0.010000	1.000	0.025		
01010530	1A	Beet, sugar, molasses	0.010000	1.000	0.025		
01010531	1A	Beet, sugar, molasses-babyfood	0.010000	1.000	1.000		
95000540	O	Belgium endive	0.003000	1.000	1.000		
13010550	13A	Blackberry	0.204000	1.000	1.000	15	
13010560	13A	Blackberry, juice	0.204000	1.000	1.000	15	
13010561	13A	Blackberry, juice-babyfood	0.204000	1.000	1.000	15	
13020570	13B	Blueberry	0.092000	1.000	1.000	16	
13020571	13B	Blueberry-babyfood	0.092000	1.000	1.000	16	
13010580	13A	Boysenberry	0.010000	1.000	1.000	15	
05010610	5A	Broccoli	0.008000	1.000	1.000	17	
05010611	5A	Broccoli-babyfood	0.008000	1.000	1.000	17	
05010620	5A	Broccoli, Chinese	0.008000	1.000	1.000	17	
05020630	5B	Broccoli raab	0.010000	1.000	1.000		
05010640	5A	Brussels sprouts	0.010000	1.000	1.000	18	
01010670	1AB	Burdock	0.010000	1.000	1.000		
05010690	5A	Cabbage					
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.003000	1.000	1.000	19	
		150-Uncooked; Cured etc; Cook Meth N/S	0.003000	1.000	1.000	19	
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.003000	1.000	1.000	19	
		211-Cooked; Fresh or N/S; Baked	0.003000	1.000	1.000	19	
		212-Cooked; Fresh or N/S; Boiled	0.003000	1.000	1.000	19	

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

		213-Cooked; Fresh or N/S; Fried				
			0.003000	1.000	1.000	19
		221-Cooked; Frozen; Baked	0.003000	1.000	1.000	19
		230-Cooked; Dried; Cook Meth N/S				
			0.003000	1.000	1.000	19
		232-Cooked; Dried; Boiled	0.003000	1.000	1.000	19
		240-Cooked; Canned; Cook Meth N/S				
			0.003000	1.000	1.000	19
		242-Cooked; Canned; Boiled	0.003000	1.000	1.000	19
		245-Cooked; Canned; Boiled/baked				
			0.003000	1.000	1.000	19
		250-Cooked; Cured etc; Cook Meth N/S				
			0.003000	1.000	1.000	19
		255-Cooked; Cured etc; Boiled/baked				
			0.003000	1.000	1.000	19
05020700	5B	Cabbage, Chinese, bok choy	0.010000	1.000	1.000	
05010710	5A	Cabbage, Chinese, napa				
		110-Uncooked; Fresh or N/S; Cook Meth N/S				
			0.003000	1.000	1.000	19
		150-Uncooked; Cured etc; Cook Meth N/S				
			0.003000	1.000	1.000	19
		210-Cooked; Fresh or N/S; Cook Meth N/S				
			0.003000	1.000	1.000	19
		213-Cooked; Fresh or N/S; Fried				
			0.003000	1.000	1.000	19
		221-Cooked; Frozen; Baked	0.003000	1.000	1.000	19
05010720	5A	Cabbage, Chinese, mustard	0.003000	1.000	1.000	17
09010750	9A	Cantaloupe	0.010000	1.000	1.000	22
04020760	4B	Cardoon	1.000000	1.000	1.000	25
01010780	1AB	Carrot	0.003000	1.000	1.000	20
01010781	1AB	Carrot-babyfood	0.003000	1.000	1.000	20
01010790	1AB	Carrot, juice	0.003000	1.000	1.000	20
09010800	9A	Casaba	0.010000	1.000	1.000	22
05010830	5A	Cauliflower	0.010000	1.000	1.000	23
01010840	1AB	Celeriac	0.010000	1.000	1.000	
04020850	4B	Celery	0.084000	1.000	1.000	24
04020851	4B	Celery-babyfood	0.084000	1.000	1.000	24
04020860	4B	Celery, juice	0.084000	1.000	1.000	24
04020870	4B	Celtuce	1.000000	1.000	1.000	25
09020880	9B	Chayote, fruit	0.010000	1.000	1.000	
12000900	12	Cherry	0.063000	1.000	1.000	26
12000901	12	Cherry-babyfood	0.063000	1.000	1.000	26
12000910	12	Cherry, juice	0.063000	1.500	1.000	26
12000911	12	Cherry, juice-babyfood	0.063000	1.500	1.000	26
14000920	14	Chestnut	0.607000	1.000	1.000	67
06030980	6C	Chickpea, seed	0.017000	1.000	1.000	11
06030981	6C	Chickpea, seed-babyfood	0.017000	1.000	1.000	11
01011000	1AB	Chicory, roots	0.010000	1.000	1.000	21
02001010	2	Chicory, tops	0.003000	1.000	1.000	21
04011040	4A	Chrysanthemum, garland	0.002000	1.000	1.000	
10001060	10	Citrus citron	1.000000	1.000	1.000	44
10001070	10	Citrus hybrids	1.000000	1.000	1.000	44
10001080	10	Citrus, oil	0.003000	1.000	1.000	
05021170	5B	Collards	0.010000	1.000	1.000	27
15001200	15	Corn, field, flour	0.010000	1.000	1.000	28
15001201	15	Corn, field, flour-babyfood	0.010000	1.000	1.000	28
15001210	15	Corn, field, meal	0.010000	1.000	1.000	28
15001211	15	Corn, field, meal-babyfood	0.010000	1.000	1.000	28
15001220	15	Corn, field, bran	0.010000	1.000	1.000	28
15001230	15	Corn, field, starch	0.010000	1.000	1.000	28
15001231	15	Corn, field, starch-babyfood	0.010000	1.000	1.000	28
15001240	15	Corn, field, syrup	0.010000	1.000	1.000	28
15001241	15	Corn, field, syrup-babyfood	0.010000	1.000	1.000	28
15001250	15	Corn, field, oil	0.010000	1.000	1.000	28
15001251	15	Corn, field, oil-babyfood	0.010000	1.000	1.000	28
15001260	15	Corn, pop	0.010000	1.000	1.000	28
15001270	15	Corn, sweet				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	29
		210-Cooked; Fresh or N/S; Cook Meth N/S				

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

			0.010000	1.000	1.000	29
	211-Cooked; Fresh or N/S; Baked		0.010000	1.000	1.000	29
	212-Cooked; Fresh or N/S; Boiled		0.010000	1.000	1.000	29
	213-Cooked; Fresh or N/S; Fried		0.010000	1.000	1.000	29
	215-Cooked; Fresh or N/S; Boiled/baked		0.010000	1.000	1.000	29
	221-Cooked; Frozen; Baked		0.010000	1.000	1.000	76
	222-Cooked; Frozen; Boiled		0.010000	1.000	1.000	76
	240-Cooked; Canned; Cook Meth N/S		0.010000	1.000	1.000	30
	242-Cooked; Canned; Boiled		0.010000	1.000	1.000	30
15001271 15	Corn, sweet-babyfood					
	240-Cooked; Canned; Cook Meth N/S		0.010000	1.000	1.000	30
95001280 O	Cottonseed, oil		5.210000	0.650	0.400	
95001281 O	Cottonseed, oil-babyfood		5.210000	0.650	0.400	
95001300 O	Cranberry		0.010000	1.000	1.000	85
95001301 O	Cranberry-babyfood		0.010000	1.000	1.000	85
95001310 O	Cranberry, dried		0.010000	1.000	1.000	85
95001320 O	Cranberry, juice		0.010000	1.000	1.000	85
95001321 O	Cranberry, juice-babyfood		0.010000	1.000	1.000	85
04011330 4A	Cress, garden		0.002000	1.000	1.000	
04011340 4A	Cress, upland		0.002000	1.000	1.000	
09021350 9B	Cucumber		0.003000	1.000	1.000	31
13021360 13B	Currant		0.204000	1.000	1.000	16
13021370 13B	Currant, dried		0.204000	1.000	1.000	16
04011380 4A	Dandelion, leaves		0.002000	1.000	1.000	
95001410 O	Date		0.004000	1.000	1.000	68 FT
13011420 13A	Dewberry		0.010000	1.000	1.000	15
08001480 8	Eggplant		0.010000	1.000	1.000	32
13021490 13B	Elderberry		0.204000	1.000	1.000	16
04011500 4A	Endive		0.002000	1.000	1.000	
04021520 4B	Fennel, Florence		1.000000	1.000	1.000	25
95001530 O	Fig		0.114000	1.000	1.000	69 FT
95001540 O	Fig, dried		0.114000	1.000	1.000	69
14001550 14	Filbert		0.050000	1.000	1.000	
14001560 14	Filbert, oil		0.050000	1.000	1.000	
20001630 20	Flaxseed, oil		0.010000	1.000	1.000	11
03001640 3	Garlic		0.005000	1.000	1.000	33
03001650 3	Garlic, dried		0.005000	1.000	1.000	43
03001651 3	Garlic, dried-babyfood		0.005000	1.000	1.000	43
01011680 1AB	Ginseng, dried		0.003000	1.000	1.000	21
13021740 13B	Gooseberry		0.204000	1.000	1.000	16
95001750 O	Grape		0.007000	1.000	1.000	35
95001760 O	Grape, juice		0.007000	1.200	1.000	35
95001761 O	Grape, juice-babyfood		0.007000	1.200	1.000	35
95001770 O	Grape, leaves		0.007000	1.200	1.000	35
95001790 O	Grape, wine and sherry		0.007000	1.000	1.000	35
10001800 10	Grapefruit		0.003000	1.000	1.000	34
10001810 10	Grapefruit, juice		0.003000	2.100	1.000	34
06031820 6C	Guar, seed		0.017000	1.000	1.000	11
06031821 6C	Guar, seed-babyfood		0.017000	1.000	1.000	11
95001830 O	Guava		0.115000	1.000	1.000	70 FT
95001831 O	Guava-babyfood		0.115000	1.000	1.000	70
09011870 9A	Honeydew melon		0.010000	1.000	1.000	22
95001880 O	Hop		1.000000	1.000	1.000	
01011900 1AB	Horseradish		0.010000	1.000	1.000	21
13021910 13B	Huckleberry		0.204000	1.000	1.000	16
05021940 5B	Kale		0.010000	1.000	1.000	36
05011960 5A	Kohlrabi		0.230000	1.000	1.000	
10001970 10	Kumquat		0.003000	1.000	1.000	44
03001980 3	Leek		0.005000	1.000	1.000	
10001990 10	Lemon		0.003000	1.000	1.000	83
10002000 10	Lemon, juice		0.003000	2.000	1.000	83
10002001 10	Lemon, juice-babyfood		0.003000	2.000	1.000	83
10002010 10	Lemon, peel		0.003000	1.000	1.000	83
06032030 6C	Lentil, seed		0.017000	1.000	1.000	11

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

04012040	4A	Lettuce, head	0.003000	1.000	1.000	37
04012050	4A	Lettuce, leaf	0.003000	1.000	1.000	37
10002060	10	Lime	0.003000	1.000	1.000	83
10002070	10	Lime, juice	0.003000	2.000	1.000	83
10002071	10	Lime, juice-babyfood	0.003000	2.000	1.000	83
13012080	13A	Loganberry	0.010000	1.000	1.000	15
14002130	14	Macadamia nut	0.050000	1.000	1.000	71 FT
95002150	O	Mango	0.050000	1.000	1.000	72 FT
95002151	O	Mango-babyfood	0.050000	1.000	1.000	72
95002160	O	Mango, dried	0.050000	1.000	1.000	72
95002170	O	Mango, juice	0.050000	1.000	1.000	72
95002171	O	Mango, juice-babyfood	0.050000	1.000	1.000	72
95002280	O	Mushroom	0.002500	1.000	1.000	
05022290	5B	Mustard greens	0.010000	1.000	1.000	38
12002300	12	Nectarine	0.003000	1.000	1.000	39
15002310	15	Oat, bran	0.001500	1.000	1.000	40
15002320	15	Oat, flour	0.001500	1.000	1.000	40
15002321	15	Oat, flour-babyfood	0.001500	1.000	1.000	40
15002330	15	Oat, groats/rolled oats	0.001500	1.000	1.000	40
15002331	15	Oat, groats/rolled oats-babyfood	0.001500	1.000	1.000	40
08002340	8	Okra	0.060000	1.000	1.000	41
03002370	3	Onion, dry bulb	0.005000	1.000	1.000	42
03002371	3	Onion, dry bulb-babyfood	0.005000	1.000	1.000	42
03002380	3	Onion, dry bulb, dried	0.005000	9.000	1.000	43
03002381	3	Onion, dry bulb, dried-babyfood	0.005000	9.000	1.000	43
03002390	3	Onion, green	0.005000	1.000	1.000	42
10002400	10	Orange	0.003000	1.000	1.000	44
10002410	10	Orange, juice	0.003000	1.800	1.000	44
10002411	10	Orange, juice-babyfood	0.003000	1.800	1.000	44
10002420	10	Orange, peel	0.003000	1.000	1.000	44
95002450	O	Papaya	0.085000	1.000	1.000	73 FT
95002451	O	Papaya-babyfood	0.085000	1.000	1.000	73
95002460	O	Papaya, dried	0.085000	1.800	1.000	73
95002470	O	Papaya, juice	0.085000	1.500	1.000	73
04012480	4A	Parsley, leaves	0.002000	1.000	1.000	
19012490	19A	Parsley, dried leaves	0.000100	1.000	1.000	
19012491	19A	Parsley, dried leaves-babyfood	0.000100	1.000	1.000	
01012500	1AB	Parsley, turnip rooted	0.010000	1.000	1.000	21
01012510	1AB	Parsnip	0.010000	1.000	1.000	21
01012511	1AB	Parsnip-babyfood	0.010000	1.000	1.000	21
95002520	O	Passionfruit	0.050000	1.000	1.000	74 FT
95002521	O	Passionfruit-babyfood	0.050000	1.000	1.000	74
95002530	O	Passionfruit, juice	0.050000	1.000	1.000	74
95002531	O	Passionfruit, juice-babyfood	0.050000	1.000	1.000	74
06022550	6B	Pea, succulent				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	51
		120-Uncooked; Frozen; Cook Meth N/S	0.010000	1.000	1.000	51
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.010000	1.000	1.000	51
		211-Cooked; Fresh or N/S; Baked	0.010000	1.000	1.000	51
		212-Cooked; Fresh or N/S; Boiled	0.010000	1.000	1.000	51
		213-Cooked; Fresh or N/S; Fried	0.010000	1.000	1.000	51
		221-Cooked; Frozen; Baked	0.010000	1.000	1.000	50
		222-Cooked; Frozen; Boiled	0.010000	1.000	1.000	50
		240-Cooked; Canned; Cook Meth N/S	0.010000	1.000	1.000	49
		242-Cooked; Canned; Boiled	0.010000	1.000	1.000	49
06022551	6B	Pea, succulent-babyfood				
		240-Cooked; Canned; Cook Meth N/S	0.010000	1.000	1.000	49
06032560	6C	Pea, dry	0.010000	1.000	1.000	11
06032561	6C	Pea, dry-babyfood	0.010000	1.000	1.000	11
06012570	6A	Pea, edible podded, succulent				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.003000	1.000	1.000	51

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

		210-Cooked; Fresh or N/S; Cook Meth N/S	0.003000	1.000	1.000	51
		212-Cooked; Fresh or N/S; Boiled	0.003000	1.000	1.000	51
		213-Cooked; Fresh or N/S; Fried	0.003000	1.000	1.000	51
		220-Cooked; Frozen; Cook Meth N/S	0.003000	1.000	1.000	50
		221-Cooked; Frozen; Baked	0.003000	1.000	1.000	50
06022590	6B	Pea, pigeon, succulent				
		212-Cooked; Fresh or N/S; Boiled	0.003000	1.000	1.000	50
		232-Cooked; Dried; Boiled	0.003000	1.000	1.000	50
		242-Cooked; Canned; Boiled	0.003000	1.000	1.000	49
12002600	12	Peach				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.001000	1.000	1.000	47
		120-Uncooked; Frozen; Cook Meth N/S	0.001000	1.000	1.000	47
		130-Uncooked; Dried; Cook Meth N/S	0.001000	1.000	1.000	47
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.001000	1.000	1.000	47
		211-Cooked; Fresh or N/S; Baked	0.001000	1.000	1.000	47
		213-Cooked; Fresh or N/S; Fried	0.001000	1.000	1.000	47
		221-Cooked; Frozen; Baked	0.001000	1.000	1.000	48
		223-Cooked; Frozen; Fried	0.001000	1.000	1.000	48
		240-Cooked; Canned; Cook Meth N/S	0.001000	1.000	1.000	49
12002601	12	Peach-babyfood				
		240-Cooked; Canned; Cook Meth N/S	0.001000	1.000	1.000	49
12002610	12	Peach, dried				
		130-Uncooked; Dried; Cook Meth N/S	0.001000	7.000	1.000	46
		211-Cooked; Fresh or N/S; Baked	0.001000	7.000	1.000	46
		230-Cooked; Dried; Cook Meth N/S	0.001000	7.000	1.000	46
12002611	12	Peach, dried-babyfood				
12002620	12	Peach, juice				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.001000	1.500	1.000	47
		211-Cooked; Fresh or N/S; Baked	0.001000	1.500	1.000	47
		240-Cooked; Canned; Cook Meth N/S	0.001000	1.500	1.000	45
12002621	12	Peach, juice-babyfood				
		240-Cooked; Canned; Cook Meth N/S	0.001000	1.500	1.000	45
95002630	O	Peanut				
95002640	O	Peanut, butter				
95002650	O	Peanut, oil				
11002660	11	Pear				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.053000	1.000	1.000	78
		210-Cooked; Fresh or N/S; Cook Meth N/S	0.053000	1.000	1.000	78
		211-Cooked; Fresh or N/S; Baked	0.053000	1.000	1.000	78
		240-Cooked; Canned; Cook Meth N/S	0.004000	1.000	1.000	77
11002661	11	Pear-babyfood				
		240-Cooked; Canned; Cook Meth N/S	0.004000	1.000	1.000	77
11002670	11	Pear, dried				
11002680	11	Pear, juice				
		110-Uncooked; Fresh or N/S; Cook Meth N/S	0.004000	6.250	1.000	78

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

			0.053000	1.000	1.000	78
	120-Uncooked; Frozen; Cook Meth N/S		0.053000	1.000	1.000	78
	130-Uncooked; Dried; Cook Meth N/S		0.053000	1.000	1.000	78
	221-Cooked; Frozen; Baked		0.053000	1.000	1.000	78
	230-Cooked; Dried; Cook Meth N/S		0.004000	1.000	1.000	78
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	77
11002681 11	Pear, juice-babyfood					
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	77
14002690 14	Pecan		0.050000	1.000	1.000	79
08002700 8	Pepper, bell		0.015000	1.000	1.000	80
08002701 8	Pepper, bell-babyfood		0.015000	1.000	1.000	80
08002710 8	Pepper, bell, dried		0.015000	1.000	1.000	52
08002711 8	Pepper, bell, dried-babyfood		0.015000	1.000	1.000	52
08002720 8	Pepper, nonbell		0.015000	1.000	1.000	80
08002721 8	Pepper, nonbell-babyfood		0.015000	1.000	1.000	80
08002730 8	Pepper, nonbell, dried		0.015000	1.000	1.000	80
95002750 0	Peppermint		0.887000	1.000	0.150	
95002760 0	Peppermint, oil		0.887000	1.000	0.150	
95002790 0	Pineapple		0.028000	1.000	1.000	
95002791 0	Pineapple-babyfood		0.028000	1.000	1.000	
95002800 0	Pineapple, dried		0.028000	5.000	1.000	
95002810 0	Pineapple, juice		0.028000	1.700	1.000	
95002811 0	Pineapple, juice-babyfood		0.028000	1.700	1.000	
12002850 12	Plum					
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.005000	1.000	1.000	47
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.005000	1.000	1.000	47
	211-Cooked; Fresh or N/S; Baked		0.005000	1.000	1.000	47
	221-Cooked; Frozen; Baked		0.005000	1.000	1.000	48
	240-Cooked; Canned; Cook Meth N/S		0.005000	1.000	1.000	48
12002851 12	Plum-babyfood		0.005000	1.000	1.000	48
12002860 12	Plum, prune, fresh		0.005000	1.000	1.000	47
12002861 12	Plum, prune, fresh-babyfood		0.005000	1.000	1.000	48
12002870 12	Plum, prune, dried		0.005000	5.000	1.000	48
12002871 12	Plum, prune, dried-babyfood		0.005000	5.000	1.000	48
12002880 12	Plum, prune, juice		0.005000	1.400	1.000	48
12002881 12	Plum, prune, juice-babyfood		0.005000	1.400	1.000	48
01032960 1C	Potato, chips		0.004000	1.000	1.000	82
01032970 1C	Potato, dry (granules/ flakes)		0.004000	6.500	1.000	82
01032971 1C	Potato, dry (granules/ flakes)-b		0.004000	6.500	1.000	82
01032980 1C	Potato, flour		0.004000	1.000	1.000	82
01032981 1C	Potato, flour-babyfood		0.004000	1.000	1.000	82
01032990 1C	Potato, tuber, w/peel		0.004000	1.000	1.000	53
01032991 1C	Potato, tuber, w/peel-babyfood		0.004000	1.000	1.000	53
01033000 1C	Potato, tuber, w/o peel		0.004000	1.000	1.000	53
01033001 1C	Potato, tuber, w/o peel-babyfood		0.004000	1.000	1.000	53
09023080 9B	Pumpkin		1.000000	1.000	1.000	22
11003100 11	Quince		0.002500	1.000	1.000	
04013130 4A	Radicchio		0.002000	1.000	1.000	
01013140 1AB	Radish, roots		0.010000	1.000	1.000	54
02003150 2	Radish, tops		0.010000	1.000	1.000	54
01013160 1AB	Radish, Oriental, roots		0.010000	1.000	1.000	
02003170 2	Radish, Oriental, tops		0.010000	1.000	1.000	54
05023180 5B	Rape greens		0.010000	1.000	1.000	
13013200 13A	Raspberry		0.010000	1.000	1.000	55
13013201 13A	Raspberry-babyfood		0.010000	1.000	1.000	55
13013210 13A	Raspberry, juice		0.010000	1.000	1.000	55
13013211 13A	Raspberry, juice-babyfood		0.010000	1.000	1.000	55
04023220 4B	Rhubarb		1.000000	1.000	1.000	25
15003230 15	Rice, white		0.018000	1.000	1.000	87
15003231 15	Rice, white-babyfood		0.018000	1.000	1.000	87
15003240 15	Rice, brown		0.018000	1.000	1.000	87

Malathion Dietary Exposure and Risk Assessment DP Barcode:D371345

PC Code: 057701

15003241	15	Rice, brown-babyfood	0.018000	1.000	1.000	87
15003250	15	Rice, flour	0.018000	1.000	1.000	66
15003251	15	Rice, flour-babyfood	0.018000	1.000	1.000	66
15003260	15	Rice, bran	0.018000	1.000	1.000	66
15003261	15	Rice, bran-babyfood	0.018000	1.000	1.000	66
01013270	1AB	Rutabaga	0.010000	1.000	1.000	
15003280	15	Rye, grain	0.002000	1.000	1.000	66
15003290	15	Rye, flour	0.002000	1.000	1.000	66
20003300	20	Safflower, oil	0.200000	1.000	1.000	
20003301	20	Safflower, oil-babyfood	0.200000	1.000	1.000	
01013310	1AB	Salsify, roots	0.010000	1.000	1.000	21
03003380	3	Shallot	0.005000	1.000	1.000	
15003440	15	Sorghum, grain	1.000000	1.000	1.000	28
15003450	15	Sorghum, syrup	1.000000	1.000	1.000	28
06003470	6	Soybean, seed	0.017000	1.000	1.000	11
06003480	6	Soybean, flour	0.017000	1.000	1.000	11
06003481	6	Soybean, flour-babyfood	0.017000	1.000	1.000	11
06003490	6	Soybean, soy milk	0.017000	1.000	1.000	11
06003491	6	Soybean, soy milk-babyfood or in	0.017000	1.000	1.000	11
06003500	6	Soybean, oil	0.017000	1.000	1.000	11
06003501	6	Soybean, oil-babyfood	0.017000	1.000	1.000	11
95003520	O	Spearmint	0.887000	1.000	0.150	
95003530	O	Spearmint, oil	0.887000	1.000	0.150	
04013550	4A	Spinach				
		110-Uncooked; Fresh or N/S; Cook Meth N/S				
			0.020000	1.000	1.000	57
		210-Cooked; Fresh or N/S; Cook Meth N/S				
			0.020000	1.000	1.000	57
		211-Cooked; Fresh or N/S; Baked				
			0.020000	1.000	1.000	57
		212-Cooked; Fresh or N/S; Boiled				
			0.020000	1.000	1.000	57
		213-Cooked; Fresh or N/S; Fried				
			0.020000	1.000	1.000	57
		215-Cooked; Fresh or N/S; Boiled/baked				
			0.020000	1.000	1.000	57
		220-Cooked; Frozen; Cook Meth N/S				
			0.020000	1.000	1.000	58
		221-Cooked; Frozen; Baked				
			0.020000	1.000	1.000	58
		222-Cooked; Frozen; Boiled				
			0.020000	1.000	1.000	58
		232-Cooked; Dried; Boiled				
			0.020000	1.000	1.000	57
		240-Cooked; Canned; Cook Meth N/S				
			0.020000	1.000	1.000	57
		242-Cooked; Canned; Boiled				
			0.020000	1.000	1.000	57
04013551	4A	Spinach-babyfood				
		240-Cooked; Canned; Cook Meth N/S				
			0.020000	1.000	1.000	57
09023560	9B	Squash, summer				
		110-Uncooked; Fresh or N/S; Cook Meth N/S				
			0.010000	1.000	1.000	59
		211-Cooked; Fresh or N/S; Baked				
			0.010000	1.000	1.000	59
		212-Cooked; Fresh or N/S; Boiled				
			0.010000	1.000	1.000	59
		213-Cooked; Fresh or N/S; Fried				
			0.010000	1.000	1.000	59
		215-Cooked; Fresh or N/S; Boiled/baked				
			0.010000	1.000	1.000	59
		221-Cooked; Frozen; Baked				
			0.010000	1.000	1.000	59
		222-Cooked; Frozen; Boiled				
			0.010000	1.000	1.000	59
		242-Cooked; Canned; Boiled				
			0.010000	1.000	1.000	59
		250-Cooked; Cured etc; Cook Meth N/S				
			0.010000	1.000	1.000	59
09023561	9B	Squash, summer-babyfood				
		240-Cooked; Canned; Cook Meth N/S				
			0.010000	1.000	1.000	59
09023570	9B	Squash, winter				
		210-Cooked; Fresh or N/S; Cook Meth N/S				
			0.010000	1.000	1.000	59
		211-Cooked; Fresh or N/S; Baked				

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

			0.010000	1.000	1.000	59
	212-Cooked; Fresh or N/S; Boiled		0.010000	1.000	1.000	59
	213-Cooked; Fresh or N/S; Fried		0.010000	1.000	1.000	59
	215-Cooked; Fresh or N/S; Boiled/baked		0.010000	1.000	1.000	59
	222-Cooked; Frozen; Boiled		0.010000	1.000	1.000	59
	242-Cooked; Canned; Boiled		0.010000	1.000	1.000	59
09023571 9B	Squash, winter-babyfood					
	240-Cooked; Canned; Cook Meth N/S		0.010000	1.000	1.000	59
95003590 0	Strawberry					
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.004000	1.000	1.000	60
	120-Uncooked; Frozen; Cook Meth N/S		0.004000	1.000	1.000	60
	211-Cooked; Fresh or N/S; Baked		0.004000	1.000	1.000	60
	213-Cooked; Fresh or N/S; Fried		0.004000	1.000	1.000	60
	220-Cooked; Frozen; Cook Meth N/S		0.004000	1.000	1.000	60
	223-Cooked; Frozen; Fried		0.004000	1.000	1.000	60
	230-Cooked; Dried; Cook Meth N/S		0.004000	1.000	1.000	60
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	60
95003591 0	Strawberry-babyfood					
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	60
95003600 0	Strawberry, juice					
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.004000	1.000	1.000	60
	120-Uncooked; Frozen; Cook Meth N/S		0.004000	1.000	1.000	60
	130-Uncooked; Dried; Cook Meth N/S		0.004000	1.000	1.000	60
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.004000	1.000	1.000	60
	211-Cooked; Fresh or N/S; Baked		0.004000	1.000	1.000	60
	213-Cooked; Fresh or N/S; Fried		0.004000	1.000	1.000	60
	230-Cooked; Dried; Cook Meth N/S		0.004000	1.000	1.000	60
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	60
95003601 0	Strawberry, juice-babyfood					
	240-Cooked; Canned; Cook Meth N/S		0.004000	1.000	1.000	60
20003640 20	Sunflower, seed		1.070000	1.000	0.025	
20003650 20	Sunflower, oil		1.070000	1.000	0.025	
20003651 20	Sunflower, oil-babyfood		1.070000	1.000	0.025	
01033660 1CD	Sweet potato		0.005000	1.000	1.000	61
01033661 1CD	Sweet potato-babyfood		0.005000	1.000	1.000	61
04023670 4B	Swiss chard		1.000000	1.000	1.000	25
10003690 10	Tangerine		0.003000	1.000	1.000	44
10003700 10	Tangerine, juice		0.003000	2.300	1.000	44
08003740 8	Tomatillo					
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.003000	1.000	1.000	62
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.003000	1.000	1.000	62
	240-Cooked; Canned; Cook Meth N/S		0.003000	1.000	1.000	63
08003750 8	Tomato					
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.003000	1.000	1.000	62
	150-Uncooked; Cured etc; Cook Meth N/S					

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

			0.003000	1.000	1.000	62
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.003000	1.000	1.000	62
	211-Cooked; Fresh or N/S; Baked		0.003000	1.000	1.000	62
	212-Cooked; Fresh or N/S; Boiled		0.003000	1.000	1.000	62
	213-Cooked; Fresh or N/S; Fried		0.003000	1.000	1.000	62
	214-Cooked; Fresh or N/S; Fried/baked		0.003000	1.000	1.000	62
	215-Cooked; Fresh or N/S; Boiled/baked		0.003000	1.000	1.000	62
	221-Cooked; Frozen; Baked		0.003000	1.000	1.000	62
	222-Cooked; Frozen; Boiled		0.003000	1.000	1.000	63
	232-Cooked; Dried; Boiled		0.003000	1.000	1.000	63
	240-Cooked; Canned; Cook Meth N/S		0.003000	1.000	1.000	63
	242-Cooked; Canned; Boiled		0.003000	1.000	1.000	63
	252-Cooked; Cured etc; Boiled		0.003000	1.000	1.000	62
08003751 8	Tomato-babyfood		0.003000	1.000	1.000	63
	240-Cooked; Canned; Cook Meth N/S		0.003000	1.000	1.000	63
08003760 8	Tomato, paste		0.003000	1.000	1.000	63
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.003000	5.400	1.000	64
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.003000	5.400	1.000	64
	211-Cooked; Fresh or N/S; Baked		0.003000	5.400	1.000	64
	212-Cooked; Fresh or N/S; Boiled		0.003000	5.400	1.000	64
	213-Cooked; Fresh or N/S; Fried		0.003000	5.400	1.000	64
	215-Cooked; Fresh or N/S; Boiled/baked		0.003000	5.400	1.000	64
	221-Cooked; Frozen; Baked		0.003000	5.400	1.000	64
	232-Cooked; Dried; Boiled		0.003000	5.400	1.000	64
	240-Cooked; Canned; Cook Meth N/S		0.003000	5.400	1.000	64
	242-Cooked; Canned; Boiled		0.003000	5.400	1.000	64
08003761 8	Tomato, paste-babyfood		0.003000	5.400	1.000	64
	240-Cooked; Canned; Cook Meth N/S		0.003000	5.400	1.000	64
08003770 8	Tomato, puree		0.003000	5.400	1.000	64
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.005000	3.300	1.000	81
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.005000	3.300	1.000	81
	211-Cooked; Fresh or N/S; Baked		0.005000	3.300	1.000	81
	212-Cooked; Fresh or N/S; Boiled		0.005000	3.300	1.000	81
	213-Cooked; Fresh or N/S; Fried		0.005000	3.300	1.000	81
	215-Cooked; Fresh or N/S; Boiled/baked		0.005000	3.300	1.000	81
	221-Cooked; Frozen; Baked		0.005000	3.300	1.000	81
	232-Cooked; Dried; Boiled		0.005000	3.300	1.000	81
	240-Cooked; Canned; Cook Meth N/S		0.005000	3.300	1.000	81
	242-Cooked; Canned; Boiled		0.005000	3.300	1.000	81
	252-Cooked; Cured etc; Boiled		0.005000	3.300	1.000	81
08003771 8	Tomato, puree-babyfood		0.005000	3.300	1.000	81
	240-Cooked; Canned; Cook Meth N/S		0.005000	3.300	1.000	81
08003780 8	Tomato, dried		0.005000	14.300	1.000	81
08003781 8	Tomato, dried-babyfood		0.005000	14.300	1.000	81
08003790 8	Tomato, juice		0.005000	14.300	1.000	81
	110-Uncooked; Fresh or N/S; Cook Meth N/S		0.005000	14.300	1.000	81

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

			0.003000	1.500	1.000	62
	210-Cooked; Fresh or N/S; Cook Meth N/S		0.003000	1.500	1.000	62
	211-Cooked; Fresh or N/S; Baked		0.003000	1.500	1.000	62
	212-Cooked; Fresh or N/S; Boiled		0.003000	1.500	1.000	62
	240-Cooked; Canned; Cook Meth N/S		0.003000	1.500	1.000	63
	242-Cooked; Canned; Boiled		0.003000	1.500	1.000	63
01013880 1AB	Turnip, roots		0.010000	1.000	1.000	
05023890 5B	Turnip, greens		0.010000	1.000	1.000	65
14003910 14	Walnut		0.050000	1.000	1.000	75 FT
95003980 O	Watercress		0.002000	1.000	1.000	
09013990 9A	Watermelon		0.010000	1.000	1.000	22
09014000 9A	Watermelon, juice		0.010000	1.000	1.000	22
15004010 15	Wheat, grain		0.002000	1.000	1.000	87
15004011 15	Wheat, grain-babyfood		0.002000	1.000	1.000	87
15004020 15	Wheat, flour		0.002000	1.000	1.000	66
15004021 15	Wheat, flour-babyfood		0.002000	1.000	1.000	66
15004030 15	Wheat, germ		0.002000	1.770	1.000	66 post-h
	Full comment: post-harvest use					
15004040 15	Wheat, bran		0.002000	1.000	1.000	66 post-h
	Full comment: post-harvest use					

Attachment 3: Acute Residue Analysis for Malathion for Food Alone

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x.R98 Adjustment factor #2 used.
Analysis Date: 10-02-2009/14:29:59 Residue file dated: 10-02-2009/14:19:51/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint- food only"
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile				
	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
<hr/>									
U.S. Population:									
	0.000572	0.72	13282	0.001774	2.22	4283	0.006407	8.01	1186
<hr/>									
All infants:									
	0.000659	0.82	11537	0.002036	2.55	3732	0.015136	18.92	502
<hr/>									
Children 1-2 yrs:									
	0.001176	1.47	6465	0.003503	4.38	2169	0.011834	14.79	642
<hr/>									
Children 3-5 yrs:									
	0.001209	1.51	6285	0.003719	4.65	2043	0.011179	13.97	679
<hr/>									
Children 6-12 yrs:									
	0.000844	1.06	9004	0.002770	3.46	2743	0.008105	10.13	937
<hr/>									
Youth 13-19 yrs:									
	0.000571	0.71	13321	0.002203	2.75	3449	0.007367	9.21	1031
<hr/>									
Adults 20-49 yrs:									
	0.000472	0.59	16100	0.001480	1.85	5135	0.005070	6.34	1499
<hr/>									
Adults 50+ yrs:									
	0.000308	0.38	24709	0.000954	1.19	7969	0.003459	4.32	2197
<hr/>									
Females 13-49 yrs:									
	0.000421	0.53	18047	0.001436	1.79	5292	0.005018	6.27	1514

Attachment 4: Acute Residue Analysis for Malathion Food + CA lettuce (TS1)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala01.R98 Adjustment factor #2 used.

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Analysis Date: 10-02-2009/14:16:55 Residue file dated: 10-02-2009/14:06:42/8
 NOEL (Acute) = 7.600000 mg/kg body-wt/day
 Daily totals for food and foodform consumption used.
 MC iterations = 1000 MC list in residue file MC seed = 10
 Run Comment: "New TAF of 22x and acute endpoint "
 =====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile		
	Exposure % aRfD	MOE	Exposure % aRfD	MOE	Exposure % aRfD	MOE	
U.S. Population:							
0.001158	1.45	6564	0.004074	5.09	1865	0.010870	13.59
All infants:							
0.001772	2.22	4288	0.013479	16.85	563	0.035696	44.62
Children 1-2 yrs:							
0.002059	2.57	3691	0.006797	8.50	1118	0.017288	21.61
Children 3-5 yrs:							
0.002116	2.64	3592	0.006492	8.12	1170	0.015893	19.87
Children 6-12 yrs:							
0.001498	1.87	5073	0.004655	5.82	1632	0.010967	13.71
Youth 13-19 yrs:							
0.001083	1.35	7019	0.003712	4.64	2047	0.009639	12.05
Adults 20-49 yrs:							
0.001036	1.30	7332	0.003711	4.64	2047	0.009380	11.73
Adults 50+ yrs:							
0.000895	1.12	8489	0.003514	4.39	2162	0.008360	10.45
Females 13-49 yrs:							
0.000997	1.25	7626	0.003713	4.64	2047	0.009223	11.53

Attachment 5: Acute Residue Analysis for Malathion Food + TX peach (TS2)

U.S. Environmental Protection Agency Ver. 2.02
 DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
 Residue file: malathion22x_mala02.R98 Adjustment factor #2 used.
 Analysis Date: 10-02-2009/14:04:14 Residue file dated: 10-02-2009/13:54:11/8
 NOEL (Acute) = 7.600000 mg/kg body-wt/day
 Daily totals for food and foodform consumption used.
 MC iterations = 1000 MC list in residue file MC seed = 10
 Run Comment: "New TAF of 22x and acute endpoint "
 =====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile		
	Exposure % aRfD	MOE	Exposure % aRfD	MOE	Exposure % aRfD	MOE	
U.S. Population:							
0.001238	1.55	6140	0.004231	5.29	1796	0.012141	15.18
All infants:							
0.002193	2.74	3466	0.013913	17.39	546	0.039408	49.26
Children 1-2 yrs:							
0.002171	2.71	3501	0.007011	8.76	1084	0.019152	23.94
Children 3-5 yrs:							
0.002218	2.77	3426	0.006702	8.38	1134	0.017439	21.80
Children 6-12 yrs:							
0.001569	1.96	4845	0.004795	5.99	1584	0.011943	14.93
Youth 13-19 yrs:							
0.001138	1.42	6678	0.003829	4.79	1984	0.010598	13.25
Adults 20-49 yrs:							
0.001121	1.40	6780	0.003868	4.84	1964	0.010562	13.20
Adults 50+ yrs:							
0.001001	1.25	7595	0.003626	4.53	2095	0.009521	11.90
Females 13-49 yrs:							
0.001091	1.36	6966	0.003868	4.83	1964	0.010466	13.08

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Attachment 6: Acute Residue Analysis for Malathion Food +FL citrus (TS3)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION
Residue file: malathion22x_mala03.R98
Analysis Date: 10-02-2009/13:52:44 Residue file dated: 10-02-2009/13:42:38/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint"
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure % aRfD	MOE	Exposure % aRfD	MOE	Exposure % aRfD	MOE
U.S. Population:						
0.000652	0.82	11652	0.002003	2.50	3793	0.006703
All infants:						
0.000778	0.97	9770	0.003735	4.67	2034	0.017899
Children 1-2 yrs:						
0.001290	1.61	5892	0.003816	4.77	1991	0.012029
Children 3-5 yrs:						
0.001330	1.66	5712	0.003936	4.92	1930	0.011334
Children 6-12 yrs:						
0.000934	1.17	8137	0.002913	3.64	2609	0.008206
Youth 13-19 yrs:						
0.000649	0.81	11704	0.002333	2.92	3257	0.007602
Adults 20-49 yrs:						
0.000549	0.69	13845	0.001711	2.14	4440	0.005393
Adults 50+ yrs:						
0.000389	0.49	19559	0.001227	1.53	6196	0.003949
Females 13-49 yrs:						
0.000507	0.63	14980	0.001671	2.09	4547	0.005387

Attachment 7: Acute Residue Analysis for Malathion Food + FL citrus (TS4)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION
Residue file: malathion22x_mala04.R98
Analysis Date: 10-02-2009/13:39:49 Residue file dated: 10-02-2009/13:29:36/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint"
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure % aRfD	MOE	Exposure % aRfD	MOE	Exposure % aRfD	MOE
U.S. Population:						
0.000887	1.11	8564	0.004569	5.71	1663	0.017801
All infants:						
0.001018	1.27	7468	0.013397	16.75	567	0.062246
Children 1-2 yrs:						
0.001686	2.11	4508	0.007501	9.38	1013	0.028031
Children 3-5 yrs:						
0.001759	2.20	4321	0.007294	9.12	1041	0.026040
Children 6-12 yrs:						
0.001243	1.55	6112	0.005206	6.51	1459	0.017346
Youth 13-19 yrs:						
0.000891	1.11	8526	0.004128	5.16	1840	0.014162
Adults 20-49 yrs:						

Malathion Dietary Exposure and Risk Assessment DP Barcode:D371345
PC Code: 057701

0.000770	0.96	9871	0.004135	5.17	1837	0.016176	20.22	469
Adults 50+ yrs:								
0.000561	0.70	13554	0.004052	5.07	1875	0.015638	19.55	486
Females 13-49 yrs:								
0.000712	0.89	10676	0.004120	5.15	1844	0.015907	19.88	477

Attachment 8: Acute Residue Analysis for Malathion Food + FL tomato (TS5)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala05.R98 Adjustment factor #2 used.
Analysis Date: 10-02-2009/13:27:24 Residue file dated: 10-02-2009/13:16:57/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint "
=====

Summary calculations (per capita):

95th Percentile		99th Percentile		99.9th Percentile	
Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
U.S. Population:					
0.001175	1.47	6470	0.003788	4.73	2006
All infants:					
0.002511	3.14	3026	0.011386	14.23	667
Children 1-2 yrs:					
0.002079	2.60	3656	0.006305	7.88	1205
Children 3-5 yrs:					
0.002099	2.62	3619	0.006126	7.66	1240
Children 6-12 yrs:					
0.001483	1.85	5126	0.004441	5.55	1711
Youth 13-19 yrs:					
0.001077	1.35	7055	0.003580	4.48	2122
Adults 20-49 yrs:					
0.001064	1.33	7145	0.003387	4.23	2244
Adults 50+ yrs:					
0.000957	1.20	7938	0.002992	3.74	2540
Females 13-49 yrs:					
0.001037	1.30	7328	0.003360	4.20	2262

Attachment 9: Acute Residue Analysis for Malathion Food + CA strawberry (TS6)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala06.R98 Adjustment factor #2 used.
Analysis Date: 10-02-2009/13:15:05 Residue file dated: 10-02-2009/13:04:54/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 4
Run Comment: "New TAF of 22x and acute endpoint "

Summary calculations (per capita):

95th Percentile			99th Percentile			99.9th Percentile		
Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
U.S. Population:								
0.001814	2.27	4190	0.005114	6.39	1486	0.012567	15.71	604
All infants:								
0.004614	5.77	1647	0.018085	22.61	420	0.039919	49.90	190
Children 1-2 yrs:								
0.003004	3.76	2529	0.008410	10.51	903	0.019174	23.97	396
Children 3-5 yrs:								
0.002993	3.74	2538	0.007860	9.82	966	0.017396	21.74	436

Malathion Dietary Exposure and Risk Assessment DP Barcode:D371345
PC Code: 057701

Children 6-12 yrs:								
0.002112	2.64	3598	0.005587	6.98	1360	0.012218	15.27	622
Youth 13-19 yrs:								
0.001532	1.92	4960	0.004422	5.53	1718	0.010435	13.04	728
Adults 20-49 yrs:								
0.001666	2.08	4561	0.004684	5.86	1622	0.010651	13.31	713
Adults 50+ yrs:								
0.001677	2.10	4532	0.004469	5.59	1700	0.009106	11.38	834
Females 13-49 yrs:								
0.001638	2.05	4639	0.004717	5.90	1611	0.010499	13.12	723

Attachment 10: Acute Residue Analysis for Malathion Food + MS cotton (TS7)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala07.R98 Adjustment factor #2 used.
Analysis Date: 10-02-2009/13:03:04 Residue file dated: 10-02-2009/12:52:41/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 4
Run Comment: "New TAF of 22x and acute endpoint + drinking water-FL citrus 7.5
rate"

Summary calculations (per capita):

95th Percentile			99th Percentile			99.9th Percentile		
Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
U.S. Population:								
0.000676	0.85	11239	0.002030	2.54	3743	0.006832	8.54	1112
All infants:								
0.000936	1.17	8122	0.003771	4.71	2015	0.018543	23.18	409
Children 1-2 yrs:								
0.001327	1.66	5729	0.003836	4.79	1981	0.012372	15.46	614
Children 3-5 yrs:								
0.001355	1.69	5610	0.003977	4.97	1911	0.011590	14.49	655
Children 6-12 yrs:								
0.000950	1.19	7996	0.002944	3.68	2581	0.008322	10.40	913
Youth 13-19 yrs:								
0.000665	0.83	11434	0.002349	2.94	3234	0.007584	9.48	1002
Adults 20-49 yrs:								
0.000574	0.72	13248	0.001721	2.15	4415	0.005542	6.93	1371
Adults 50+ yrs:								
0.000427	0.53	17804	0.001212	1.51	6272	0.004180	5.22	1818
Females 13-49 yrs:								
0.000534	0.67	14230	0.001685	2.11	4509	0.005543	6.93	1371

Attachment 11: Acute Residue Analysis for Malathion Food + MS cotton (TS8)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala08.R98 Adjustment factor #2 used.
Analysis Date: 10-01-2009/16:23:51 Residue file dated: 10-01-2009/16:13:39/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 4
Run Comment: "New TAF of 22x and acute endpoint + drinking water-FL citrus 7.5
rate"

Summary calculations (per capita):

95th Percentile			99th Percentile			99.9th Percentile		
Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

U.S. Population:									
0.000909	1.14	8362	0.002919	3.65	2603	0.009965	12.46	762	
All infants:									
0.001417	1.77	5362	0.007988	9.98	951	0.031399	39.25	242	
Children 1-2 yrs:									
0.001686	2.11	4507	0.005072	6.34	1498	0.016118	20.15	471	
Children 3-5 yrs:									
0.001728	2.16	4397	0.005076	6.34	1497	0.015511	19.39	489	
Children 6-12 yrs:									
0.001209	1.51	6288	0.003692	4.62	2058	0.010423	13.03	729	
Youth 13-19 yrs:									
0.000870	1.09	8735	0.002925	3.66	2598	0.009181	11.48	827	
Adults 20-49 yrs:									
0.000801	1.00	9494	0.002591	3.24	2932	0.008442	10.55	900	
Adults 50+ yrs:									
0.000649	0.81	11702	0.002184	2.73	3480	0.008062	10.08	942	
Females 13-49 yrs:									
0.000759	0.95	10016	0.002567	3.21	2960	0.008349	10.44	910	

Attachment 12: Acute Residue Analysis for Malathion Food + WA cherry (TS9)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala09.R98 Adjustment factor #2 used.
Analysis Date: 10-01-2009/16:05:38 Residue file dated: 10-01-2009/15:55:33/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint + drinking water-FL citrus 7.5
rate"
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
U.S. Population:						
0.001937	2.42	3923	0.006245	7.81	1216	0.017116
All infants:						
0.004344	5.43	1749	0.022457	28.07	338	0.055094
Children 1-2 yrs:						
0.003163	3.95	2402	0.010067	12.58	754	0.025365
Children 3-5 yrs:						
0.003195	3.99	2378	0.009390	11.74	809	0.023427
Children 6-12 yrs:						
0.002246	2.81	3384	0.006608	8.26	1150	0.016001
Youth 13-19 yrs:						
0.001639	2.05	4636	0.005223	6.53	1455	0.013479
Adults 20-49 yrs:						
0.001771	2.21	4292	0.005762	7.20	1318	0.015000
Adults 50+ yrs:						
0.001804	2.25	4213	0.005667	7.08	1341	0.012975
Females 13-49 yrs:						
0.001723	2.15	4411	0.005800	7.25	1310	0.014758

Attachment 13: Acute Residue Analysis for Malathion Food + WA cherry (TS10)

U.S. Environmental Protection Agency Ver. 2.02
DEEM-FCID ACUTE Analysis for MALATHION (1994-98 data)
Residue file: malathion22x_mala10.R98 Adjustment factor #2 used.
Analysis Date: 10-01-2009/09:45:17 Residue file dated: 10-01-2009/09:26:45/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 4

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Run Comment: "New TAF of 22x and acute endpoint + drinking water-FL citrus 7.5 rate"
=====

Summary calculations (per capita):

	95th Percentile Exposure % aRfD	MOE	99th Percentile Exposure % aRfD	MOE	99.9th Percentile Exposure % aRfD	MOE
U.S. Population:						
0.002543	3.18	2988	0.007386	9.23	0.019876	24.85
All infants:						
0.007039	8.80	1079	0.026762	33.45	0.063268	79.09
Children 1-2 yrs:						
0.004076	5.09	1864	0.011870	14.84	0.028942	36.18
Children 3-5 yrs:						
0.003998	5.00	1900	0.010943	13.68	0.026578	33.22
Children 6-12 yrs:						
0.002799	3.50	2715	0.007643	9.55	0.018528	23.16
Youth 13-19 yrs:						
0.002056	2.57	3696	0.006037	7.55	0.015395	19.24
Adults 20-49 yrs:						
0.002359	2.95	3221	0.006829	8.54	0.017286	21.61
Adults 50+ yrs:						
0.002487	3.11	3055	0.006667	8.33	0.015166	18.96
Females 13-49 yrs:						
0.002323	2.90	3272	0.006866	8.58	0.017043	21.30

Attachment 14: Acute Residue Analysis for Malathion Food + FL cabbage (TS11)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION Ver. 2.02
Residue file: malathion22x_malall.R98 (1994-98 data)
Analysis Date: 10-02-2009/14:46:06 Adjustment factor #2 used.
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint "
=====

Summary calculations (per capita):

	95th Percentile Exposure % aRfD	MOE	99th Percentile Exposure % aRfD	MOE	99.9th Percentile Exposure % aRfD	MOE
U.S. Population:						
0.000700	0.87	10860	0.002138	2.67	0.006796	8.49
All infants:						
0.000874	1.09	8699	0.004617	5.77	0.018236	22.79
Children 1-2 yrs:						
0.001359	1.70	5593	0.003976	4.97	0.012121	15.15
Children 3-5 yrs:						
0.001405	1.76	5408	0.004090	5.11	0.011350	14.19
Children 6-12 yrs:						
0.000983	1.23	7728	0.003005	3.76	0.008239	10.30
Youth 13-19 yrs:						
0.000695	0.87	10941	0.002403	3.00	0.007639	9.55
Adults 20-49 yrs:						
0.000594	0.74	12798	0.001853	2.32	0.005459	6.82
Adults 50+ yrs:						
0.000433	0.54	17546	0.001401	1.75	0.004040	5.05
Females 13-49 yrs:						
0.000548	0.68	13872	0.001818	2.27	0.005451	6.81

Attachment 15: Acute Residue Analysis for Malathion Food + TX sorghum (TS12)

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION
Residue file: malathion22x_mala12.R98 Ver. 2.02
(1994-98 data)
Analysis Date: 10-02-2009/14:59:14 Adjustment factor #2 used.
Residue file dated: 10-02-2009/14:49:10/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint"
=====

Summary calculations (per capita):

	95th Percentile Exposure	% aRfD	MOE	99th Percentile Exposure	% aRfD	MOE	99.9th Percentile Exposure	% aRfD	MOE
<hr/>									
U.S. Population:									
0.000703	0.88	10804		0.002370	2.96	3206	0.007736	9.67	982
All infants:									
0.000826	1.03	9203		0.005231	6.54	1452	0.022965	28.71	330
Children 1-2 yrs:									
0.001370	1.71	5547		0.004345	5.43	1749	0.013214	16.52	575
Children 3-5 yrs:									
0.001425	1.78	5333		0.004405	5.51	1725	0.012401	15.50	612
Children 6-12 yrs:									
0.000999	1.25	7610		0.003245	4.06	2341	0.008861	11.08	857
Youth 13-19 yrs:									
0.000705	0.88	10786		0.002567	3.21	2960	0.008071	10.09	941
Adults 20-49 yrs:									
0.000594	0.74	12794		0.002073	2.59	3666	0.006408	8.01	1185
Adults 50+ yrs:									
0.000422	0.53	17991		0.001613	2.02	4712	0.005415	6.77	1403
Females 13-49 yrs:									
0.000546	0.68	13916		0.002041	2.55	3724	0.006390	7.99	1189

Attachment 16: Acute Residue Analysis for Malathion Food + WA asparagus (TS13)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION Ver. 2.02
Residue file: malathion22x_mala13.R98 (1994-98 data)
Adjustment factor #2 used.
Analysis Date: 10-02-2009/15:11:32 Residue file dated: 10-02-2009/15:01:21/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint"
=====

Summary calculations (per capita):

	95th Percentile Exposure	% aRfD	MOE	99th Percentile Exposure	% aRfD	MOE	99.9th Percentile Exposure	% aRfD	MOE
<hr/>									
U.S. Population:									
0.001651	2.06	4604		0.005224	6.53	1454	0.015073	18.84	504
All infants:									
0.003733	4.67	2035		0.018151	22.69	418	0.047679	59.60	159
Children 1-2 yrs:									
0.002769	3.46	2744		0.008481	10.60	896	0.022516	28.15	337
Children 3-5 yrs:									
0.002786	3.48	2727		0.008015	10.02	948	0.020640	25.80	368
Children 6-12 yrs:									
0.001970	2.46	3858		0.005673	7.09	1339	0.014191	17.74	535
Youth 13-19 yrs:									
0.001434	1.79	5299		0.004510	5.64	1685	0.012067	15.08	629
Adults 20-49 yrs:									
0.001502	1.88	5059		0.004784	5.98	1588	0.013100	16.37	580
Adults 50+ yrs:									
0.001478	1.85	5140		0.004600	5.75	1652	0.011580	14.48	656
Females 13-49 yrs:									
0.001462	1.83	5198		0.004794	5.99	1585	0.012939	16.17	587

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Attachment 17: Acute Residue Analysis for Malathion Food + OR apple (TS14)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION
Residue file: malathion22x_mala14.R98
Analysis Date: 10-02-2009/15:24:44 Residue file dated: 10-02-2009/15:14:44/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint "
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
	MOE		MOE		MOE	
U.S. Population:						
0.000844	1.06	9004	0.002691	3.36	2824	0.007890
All infants:						
0.001173	1.47	6481	0.007295	9.12	1041	0.023421
Children 1-2 yrs:						
0.001584	1.98	4797	0.004709	5.89	1613	0.013272
Children 3-5 yrs:						
0.001633	2.04	4653	0.004747	5.93	1601	0.012381
Children 6-12 yrs:						
0.001150	1.44	6607	0.003461	4.33	2195	0.008869
Youth 13-19 yrs:						
0.000820	1.03	9265	0.002750	3.44	2763	0.008093
Adults 20-49 yrs:						
0.000740	0.92	10275	0.002387	2.98	3183	0.006491
Adults 50+ yrs:						
0.000575	0.72	13216	0.002009	2.51	3782	0.005406

Attachment 18: Acute Residue Analysis for Malathion Food + MN alfalfa (TS15)

U.S. Environmental Protection Agency
DEEM-FCID ACUTE Analysis for MALATHION
Residue file: malathion22x_mala15.R98
Analysis Date: 10-02-2009/15:36:44 Residue file dated: 10-02-2009/15:26:46/8
NOEL (Acute) = 7.600000 mg/kg body-wt/day
Daily totals for food and foodform consumption used.
MC iterations = 1000 MC list in residue file MC seed = 10
Run Comment: "New TAF of 22x and acute endpoint "
=====

Summary calculations (per capita):

	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure	% aRfD	Exposure	% aRfD	Exposure	% aRfD
	MOE		MOE		MOE	
U.S. Population:						
0.000734	0.92	10355	0.002570	3.21	2957	0.007930
All infants:						
0.000873	1.09	8710	0.006062	7.58	1253	0.024275
Children 1-2 yrs:						
0.001419	1.77	5356	0.004600	5.75	1652	0.013531
Children 3-5 yrs:						
0.001480	1.85	5134	0.004643	5.80	1637	0.012596
Children 6-12 yrs:						
0.001037	1.30	7330	0.003395	4.24	2238	0.008965
Youth 13-19 yrs:						
0.000738	0.92	10294	0.002705	3.38	2810	0.008155
Adults 20-49 yrs:						
0.000625	0.78	12156	0.002263	2.83	3359	0.006634
Adults 50+ yrs:						

Malathion PC Code: 057701	Dietary Exposure and Risk Assessment	DP Barcode:D371345						
0.000449 Females 13-49 yrs: 0.000573	0.56 0.72	16936 13262	0.001846 0.002235	2.31 2.79	4117 3400	0.005681 0.006562	7.10 8.20	1337 1158

Attachment 19: Percent Crop Treated Memo from BEAD

The tables below contain screening level usage data for agricultural crops. This information is retrieved from our principal agricultural pesticide usage databases. At the present time data from 1998 to 2002 is being used.

All numbers reported are rounded.

'<500' indicates less than 500 pounds of active ingredient.

'<2.5' indicates less than 2.5 percent of crop is treated.

Maximum percent of crop treated is the highest observed percent crop treated during this time period. For some crops there may have been only one or two observations and it is quite possible that if usage information had been available for more years that higher usage might have been observed. This situation is more likely to occur with low acreage crops.

'(CA only)' indicates information was available only for California. California requires reporting of all agricultural pesticide use. Their database may indicate small amounts of usage of a pesticide on crops on which the pesticide is not registered. Possible reasons for this include:

- This use may actually have occurred either as an unregistered use or as an experimental or other use in which the crop was not intended for consumption.
- Data input errors may have occurred and either the crop or the pesticide is incorrect in the database.

Use of the chemical on crops for which only California use is reported may possibly have occurred in other states.

In some cases the percent crop treated column is blank. This is because information on acres grown was not readily available.

Some of the numbers may be based on information that does not cover all 50 states. Therefore, it is possible that if the remaining (usually minor states for the crop) had been included that pounds of active ingredient would be slightly higher.

Arthur Grube 308-8095

Last revised Feb 06, 2004

SAS Monday, March 22, 2004 15:29 30

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

Screening Level Estimates of Agricultural Uses of malathion
Sorted Alphabetically

OBS	Crop	Lbs. A.I.	% Crop Treated
		Ave.	Max.
1	Alfalfa	200,000	<1 <2.5
2	Almonds	10,000	<1 <2.5
3	Apples	9,000	<1 5
4	Apricots	<500	<1 <2.5
5	Arrugula (CA only)	<500	
6	Asparagus	5,000	5 10
7	Avocados	20,000	5 5
8	Barley (CA only)	6,000	
9	Beans (CA only)	2,000	
10	Beans, Green	1,000	<1 5
11	Beans/Peas, Dry	1,000	<1 <2.5
12	Beets (CA only)	1,000	
13	Blackberries (CA only)	6,000	
14	Blueberries	40,000	40 45
15	Broccoli	3,000	<1 <2.5
16	Broccoli raab (CA only)	<500	
17	Broccoli, Chinese (CA only)	4,000	
18	Brussels Sprouts (CA only)	1,000	
19	Cabbage	3,000	5 5
20	Canola & Rapeseed (CA only)	2,000	
21	Cantaloupes	5,000	5 5
22	Carrots	9,000	5 5
23	Cattle (CA only)	<500	
24	Cauliflower	<500	<1 <2.5
25	Celery	6,000	5 15
26	Cherimoya (CA only)	<500	
27	Cherries	50,000	15 25
28	Chicory (CA only)	<500	
29	Chinese greens (CA only)	<500	
30	Chives (CA only)	<500	
31	Clover (CA only)	1,000	
32	Collards	2,000	5 5
33	Corn	10,000	<1 <2.5
34	Cotton	9,900,000	15 40
35	Cucumbers	3,000	<1 5
36	Dates (CA only)	40,000	
37	Eggplant (CA only)	<500	
38	Eggplant, Oriental (CA only)	<500	

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

39	Endive (Escarole) (CA only)	3,000		
40	Fennel (CA only)	<500		
41	Figs (CA only)	4,000		
42	Forage, Hay, Silage (CA only)	10,000		
43	Garlic	10,000	15	30
44	Grain Crops (CA only)	<500		
45	Grain Elevators (CA only)	<500		
46	Grapefruit	3,000	<1	<2.5
47	Grapes	5,000	<1	<2.5
48	Grasses, Bermuda (CA only)	20,000		
49	Grasses, Bermuda, Forage (CA only)	8,000		
50	Greens, Mustard	2,000	10	10
51	Greens, Turnip	4,000	15	15
52	Kale	1,000	5	5
53	Kohlrabi (CA only)	<500		
54	Kumquats (CA only)	<500		
55	Leeks (CA only)	<500		
56	Lemons	4,000	<1	<2.5
57	Lettuce	30,000	5	15
58	Limes (CA only)	<500		
59	Livestock (CA only)	<500		
60	Melons (CA only)	1,000		
61	Mint (CA only)	<500		
62	Mustard (CA only)	1,000		
63	Nectarines (CA only)	1,000		
64	Nuts (CA only)	<500		
65	Oats (CA only)	2,000		
66	Okra	2,000	10	10
67	Onions	10,000	5	5
68	Onions, Green (CA only)	10,000		
69	Oranges	20,000	<1	<2.5
70	Other Hay	70,000		
71	Parsley (CA only)	<500		
72	Parsnips (CA only)	1,000		
73	Pasture & Rangeland	100,000		
74	Peaches	10,000	<1	<2.5
75	Peanuts	5,000	<1	<2.5
76	Pears	9,000	<1	<2.5
77	Peas, Green	2,000	<1	<2.5
78	Pecans	80,000	<1	5
79	Pepper, Spice (CA only)	<500		
80	Peppers	1,000	<1	5
81	Persimmons (CA only)	<500		
82	Potatoes	7,000	<1	<2.5

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

83	Prunes & Plums	1,000	<1	<2.5
84	Pumpkins	3,000	<1	5
85	Quinces (CA only)	<500		
86	Radish, Chinese (CA only)	<500		
87	Radishes (CA only)	<500		
88	Raspberries	8,000	40	40
89	Rice	30,000	<1	<2.5
90	Rutabagas (CA only)	<500		
91	Safflower (CA only)	8,000		
92	Sorghum	7,000	<1	<2.5
93	Spinach	1,000	<1	<2.5
94	Squash	7,000	5	5
95	Strawberries	80,000	25	30
96	Sudangrass (CA only)	<500		
97	Sugar Beets	5,000	<1	<2.5
98	Sunflowers	3,000	<1	<2.5
99	Sweet Corn	2,000	<1	<2.5
100	Sweet Potatoes (CA only)	3,000		
101	Swiss Chard (CA only)	1,000		
102	Tangelos (CA only)	1,000		
103	Tangerines (CA only)	5,000		
104	Tobacco	8,000	<1	<2.5
105	Tomatillo (CA only)	<500		
106	Tomatoes	9,000	<1	5
107	Turnips (CA only)	1,000		
108	Walnuts	50,000	5	5
109	Watercress (CA only)	1,000		
110	Watermelons	3,000	<1	5
111	Wheat	50,000	<1	<2.5
112	Wild Rice (CA only)	9,000		

All numbers rounded.

'<500' indicates less than 500 pounds of active ingredient.

'<2.5' indicates less than 2.5 percent of crop is treated.

Malathion
PC Code: 057701

Dietary Exposure and Risk Assessment

DP Barcode:D371345

'(CA only)' indicates information was available only for California.
Use of malathion on this crop may also have occurred in other states.

Prepared by: Jihad Alsadek (703) 308-8140
March 22, 2004

All numbers rounded.

'<500' indicates less than 500 pounds of active ingredient.

'<2.5' indicates less than 2.5 percent of crop is treated.

'(CA only)' indicates information was available only for California.
Use of malathion on this crop may also have occurred in other states.



13544

R179161

Chemical Name: Malathion

PC Code: 057701
HED File Code: 11000 Chemistry Reviews
Memo Date: 11/12/2009
File ID: 00000000
Accession #: 000-00-0132

HED Records Reference Center
11/25/2009